

**ACTION AND CAUSATION IN A LOCALIST GRAMMAR**

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## Abstract

This study is an exploration of direct and indirect causation in English and certain related areas which bear on this topic, these being, in particular, the Lexical Decomposition Hypothesis and the preposition with in its function of marking an object of the verb. Having stated the problem in Chapter 1, the second Chapter is a study of Fillmorean Case Grammar with respect to the relation between Case Relations and Case Forms. We argue that if Case Forms are to be taken as the realisation of Case Relations in any direct, interesting manner, then the array of cases proposed by Fillmore has to be modified by conflating certain of his cases so that we have four cases Absolutive, Ablative, Allative and Locative, cases which would be consistent with the Localist Hypothesis, the nature and origin of which is also considered.

Chapter 3 gives the main data for discussion and we consider the types of subject, verb and object which interact in expressions of causation and action, in particular we show that we need to recognise direct objects which relate to certain occurrences of with-phrases and others which relate to to-phrases. The arguments against Lexical Decomposition are also shown to be unconvincing. Chapter 4 is a discussion of previous treatments of causation and we suggest a grammar incorporating the Localist Hypothesis which can account for the data at hand.

Chapter 5 is a discussion of the preposition with and an attempt to treat this preposition within the framework



of the grammar proposed, this serving the double function of being a further testing area for the grammar and also helping to clarify some of the proposals of Chapter 4. In the concluding Chapter we suggest some extensions of the grammar and those areas needing further study are identified.

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## CHAPTER 1

### Source and Goals

In Lakoff (Lakoff, 1970) we find the following sentences cited:

1. John opened the door (7b)

2. John brought it about that the door opened (7c)

Commenting on these, Lakoff says that "most people, on first glance, would say that 7b (our 1) entails direct action as in:

3. John opened the door by turning the  
doorknob (5-31)

However 7b can also indicate indirect action, as in:

4. John opened the door by increasing the air  
pressure in the room to 200 atmospheres (5-32)

7c is, at first glance, usually considered as indicating indirect action..." We find here two interesting, but unexplained concepts, namely direct and indirect action. These concepts, although used by other linguists, have remained unexplained. One great problem is that they can lead to ambiguity, as in the case of Lee (Lee, 1971) who talks of direct and indirect causation firstly in terms of meaning and then switches to using them to refer to syntactic phenomena such as the presence versus absence of a predicate CAUSE in the underlying structure of a sentence. Lee does not make the distinction clear, nor does he attempt to relate the semantic notion of direct action to the syntactic one. Miller (Miller, 1972) suggests, with regards to the lexical decomposition of causatives, that "a more subtle analysis in terms of direct and indirect causation is required." The aim of this thesis is to study

the notions of direct and indirect causation with a view to giving the concepts a more explicit characterisation. It is hoped that this will enable us to follow Miller's suggestion and contribute to the theory of lexical decomposition. This will also mean that we shall look more closely at Anderson's notion of Subjunction, (Anderson, 1971b, 1976).

Evidently Lakoff is using "direct" and "indirect" to refer to the nature of the action relating the agent and the object or goal. In a first intuitive approach we may distinguish several levels of directness of action. As the most direct we have the situation in which the agent and object are the same entity, that is we have a reflexive action. A second level will involve an action passing from the agent to an object, which we can call direct action, while the third level will be "indirect" and will involve some intermediary, which may or may not be specified. Thus one of the areas of interest will be the means of specifying the instrument. Further we shall also consider the types of object of actions and also the types of agent of causal forces and how these latter interact with instruments.

However, it is also evident from Lakoff's examples quoted above that the terms are not being used to refer solely to the presence of some intermediary. In the example of direct action, the by-clause refers to an action which is normal or typical when a door is opened, while increasing the air pressure is not exactly a normal means of opening doors. Thus there is a further problem



concerning the status of direct and indirect causation: that is, are these notions linguistic ones or are they pragmatic? We shall argue that a grammar can and must deal with direct and indirect causation on the grounds that these concepts help to account for certain facts about paraphrase relations between "lexical causatives" (Shibatani, 1972, 1973) and periphrastic causatives, although we shall find that directness and indirectness of causation is not always given concrete manifestation in the syntax of English.

There are other problems bound up with the grammar of causation, not least of which being the adequacy of a case grammar analysis. We shall argue below that a "Localist" view of case must be adopted (Anderson, 1971a and 1976 for a general discussion of such an approach) by showing that Fillmore's proposals and grammars which are derived from them are not observationally adequate, and in pointing out these inadequacies it will be shown that they all bear crucially on relations which are more easily handled in a Localist Case Grammar.

## CHAPTER 2

## The State of Case

Since the publication of Fillmore (Fillmore, 1968), there has been an increasing interest in case as an essential part of the description of syntactic and semantic relations between nouns and verbs. However, this development has taken place in something of a theoretical vacuum, insofar as there has been little questioning of the basic assumptions, namely that there are such relations in language and that there is no need for a strict means of setting up the list of cases for any language studied. If there is no attention paid to how the linguist is to recognise any particular case, then the status of the notion as a linguistic universal becomes highly suspect. Moreover, this lack of determinacy in the notion allows a situation in which the list of cases used for any language may be extended as the researcher wishes while the theory gives no means of constraining this extension. Thus, for example, Nilsen (Nilsen, 1973) sets up a case which he calls Material, itself a sub-category of the Instrument case, and his main reason for doing this apparently is that nouns which appear in this relation to the verb are [-count]. How does the theory allow us to say whether this is a valid step?

In his review of case grammar, Fillmore, (Fillmore, 1971a) has the following to say: "...my hope was that their (cases) existence could be discovered and justified by syntactic criteria..." However, a review of the literature

shows that this task has not been undertaken by Fillmore himself, and in this others have followed his example. However, leaving open the question of the nature of case and the number of cases allowed by the theory, the main trend of research has been towards showing how case grammar can be used in description with special reference to sub-categorisation of verbs. One further problem which has not been adequately dealt with concerns the form of representation of cases and the related question of the status of case as an unanalysable primitive or as a bundle of features.

In what follows we shall consider the state of case grammars in an attempt to show that the problems of a Fillmorean treatment bear crucially on the Localist Hypothesis. The first section is concerned with Fillmore's arguments for setting up cases and whether there are other ways of discovering and restricting the set of cases. In the second section we shall consider the adequacy of the cases used by Fillmore and in the third section how case should be handled in a grammar, i.e. as an element on which other elements may depend, as a feature on nouns as a bundle of features or as an immediate constituent, and in the final section, we briefly survey Localism.

## 2.1 Testing Cases

Consider two possible analyses of the following sentence:

1. John smeared the wall with paint

In Fillmore (Fillmore, 1968) the prepositional phrase with paint is analysed as an instrumental, probably on the basis



of the preposition used, although this is not made clear in the text. Contrasting with this, Nilsen (Nilsen, 1973) gives this sentence as an example of one containing a "with-Objective" occurring with a Locative. The problem facing us is how are we to decide between these competing proposals.

#### 2.1.1. Fillmore

Cases were first set up by Fillmore to account for "semantically relevant relations" which hold between the verb and the nouns door, janitor and key in the following sentences, (Fillmore, 1969):

2. The door will open
3. The janitor will open the door
4. The janitor will open the door with this key
5. This key will open the door

This approach seems to characterise case grammar in that it is basically concerned with accounting for intuitions without showing that other syntactic evidence reflects these intuitions. Thus the emphasis is on "semantically relevant" rather than on "syntactically relevant" relations. Certainly reference is often made to prepositional usage but this is more often than not used as support for an analysis already arrived at on intuitive grounds, rather than as primary evidence. Further, Fillmore does not make clear the relationship between prepositional usage and semantically relevant relations, that is basically the relation between semantic properties and their surface realisation. Notice that, as Starosta (Starosta, 1970) points out, this emphasis

on discovering covert relations and the treatment of surface realisation as secondary leads Fillmore to neglect certain important generalisations about surface relations between cases, for example the various uses of with.

The only point at which Fillmore gives any detailed consideration to criteria for setting up cases comes in his most recent case grammar work, (Fillmore, 1971a). It is significant that he prefaces his discussion with the following:

The whole thing (case grammar) makes sense only if there are good reasons to believe that there is an irreducible number of role types; if it turns out that this number is small; if there are reasonable principles according to which these role types can be identified...

However, a survey of case grammar suggests that there is little reason to be hopeful for any of these conditions to be fulfilled within a Fillmorean approach. With respect to the small number of cases, there seems to be no means of deciding. Certainly the number of cases used by different linguists varies and even the cases used by Fillmore himself seems to fluctuate annually. So long as there is no basic principle which restricts the set of cases, case grammar can have as many or as few cases as each linguist wishes and there is no means of knowing whether any proposed set is the "irreducible set". Further, such a governing principle from which the set of cases can be derived will ensure that we are not dealing with a simple taxonomy. Finally such a principle will allow the theory to make some testable claims about languages: case grammar as it is at the moment (excluding Localist Case Grammar) in effect makes no claims

at all, since the linguist is entitled to create any new case necessary to describe the data, so that any hypothesis in danger of being refuted can be saved by the creation of a new case.

With respect to the principles for the identification of roles Fillmore's position is a little more secure, but even these are not fully satisfactory. His first criterion depends on the "assumption that there is in a single clause at most one noun-phrase (which may, however, be complex) serving a given case role." In effect this will only allow the linguist to say of any two noun phrases that they are in different case relations, but it will not allow us to identify what case relations those are. This is brought out in Fillmore's discussion of the principle (Fillmore, op. cit.). Thus as an example he gives

6. John compelled his son to stab the usher  
and he makes the following assumptions: "Suppose that one of the case roles we INTUITIVELY RECOGNISE is that of Agent and suppose that..we perceive agency in both what John does and in what his son does" (Our emphasis). Given these assumptions the one-instance-per-clause constraint allows us to argue that the sentence is clausally complex. However, without those first assumptions the principle is vacuous, and moreover, without them the problem itself does not exist, since there is nothing in the theory which will prevent an analysis in terms of compel to stab as one verbal unit. Alternatively it is possible to make different assumptions: thus we could, in terms of the category Agent,



distinguish between the Instigator Agent and the Controlled Agent and call these different cases: thus since 6 contains an example of both there is no reason on these grounds to treat 6 as clausally complex. Again there is nothing in the theory that prevents our choosing the second assumption. The only means of rejecting it would be to show that there is some test for Agency which both John and his son fulfil, so that any distinction between Instigator and Controlled Agent would be an unnecessary complication of the grammar.

The second criterion is characterised by Fillmore thus: "...if one takes a predicator which is INTUITIVELY seen as assigning different semantic functions to noun-phrases that occur in specific syntactic positions with respect to it, there should be a natural "stopping point" in any attempt to classify these semantic functions." The principle does not allow us to identify what functions we are dealing with and it is difficult to see exactly how it would apply in any instance, although the discussion following it suggests that it is to be applied with respect to adjectives like sad, warm, cold etc. These adjectives are treated in relation to a third principle, (Fillmore, op. cit.) to the effect that noun-phrases which are either brought together in comparatives or are co-ordinated must have the same role. This principle is used to account for the unacceptability of the following:

7. ?John and the movie became very sad at the end

8. ?My sweater and I are both very warm

on the grounds that John and I are Experiencers while movie

and sweater are Instruments. However, there is no argument for this assumption in the literature and there are other possible explanations for the unacceptability, for example perhaps in terms of the animacy of the noun, or the fact that we can say John feels sad but not \*The movie feels sad or in terms of the ambiguity of sad as either an expression of state or of causation of a state.

Fillmore's discussion of the subject-verb relation in the following sentences suggests that the noun itself has a large part in helping to decide its case relation with the verb. This is in no way meant as a criticism, but it should be pointed out that this form of evidence needs to be considered very carefully.

- |                        |               |
|------------------------|---------------|
| 9. I am warm           | (Experiencer) |
| 10. The jacket is warm | (Instrument)  |
| 11. Summer is warm     | (Time)        |
| 12. This room is warm  | (Place)       |

On the basis of room being a place and summer a time Fillmore concludes that they are in the Time and Place relation to the predicate. However, case-assignment on the basis of what we may call the referential status of the noun needs to be constrained, since it easily leads to such treatments as that proposed by Nilsen (Nilsen, 1973) who says that

13. A hammer is an important tool  
contains two Instruments, that is case is no longer treated as a relation between noun and verb but as some property of the item in the outside world.

Thus Fillmore's articles on case grammar do not provide a principled means of identifying cases. They merely allow for the differentiation of cases. The actual definitions of the cases themselves provide no clear means of case assignment, and may even lead to results which conflict with other statements of Fillmore's. Thus the Agent is defined (Fillmore, 1971a) as the "instigator of the event." However, this needs to be modified, perhaps, so that the instigator is necessarily animate so that explosion cannot be the instigator of the event in

14. The explosion broke the windows in the street  
Similarly the definitions of Object and Result are confusing and lead to conflict. The Object is defined among other things as "the entity whose..existence is in consideration", a definition which allows us to treat wall as Object in

15. John built the wall out of stone  
since the sentence tells us about the coming into existence of the wall. However, Result is defined as "the entity that comes into existence as a result of the action". With such uncertainty about the definitions and the lack of rigorous tests the status of case grammar is in doubt.

#### 2.1.2. Nilsen

Nilsen (Nilsen, 1973 and see also 1972) is concerned with the instrumental case in English and of the five proposed tests only two of them can in principle be used to handle any other case if we exclude the two tests which we have already seen proposed by Fillmore. Thus besides the Like-Case-Conjunction constraint and the one-instance-per-clause



constraint Nilsen discusses the Relative pronoun test, the Use-with test and the prepositional test.

(i) Relative pronoun test

As a means of identifying Manner and Instrumental adverbs, questioning a sentence with how has the backing of authority in that it has been used by traditional, structuralist and transformationalist grammarians. Nilsen is critical of the test in that it does not allow the grammarian to distinguish between the two. He gives as an example:

16. How do porcupines kiss?

which can be answered with either With their lips (Instrumental) or Carefully (Manner adverb). This seems to be an incorrect approach to the problem, in that it is basically a negative one. Thus Nilsen has some intuitions about Instruments and Manner adverbs, namely that they should be distinguished, but the test does not reflect this distinction and therefore must be rejected. But the important point is that in rejecting the test, he also rejects its findings, namely that there is some relation between Manner adverbs and Instruments. This fact, rather than being evidence against the test, is an important starting-point for research, namely, given that we have some means of recognising independently Instruments and Manner adverbs, what property (or properties) do they share?

(ii) Use-with test

This test is based on Lakoff's observations on the preposition with and the verb use (Lakoff, 1968). Thus

many linguists (Stine, 1968, Lambert, 1969, Morin, 1969, Langendoen, 1970, Pam, 1970, Binkert, 1970 and see also Walmsley 1971, Buckingham, 1973 on instrumentals) consider a noun-phrase to be in the instrumental case if it can be the object of use and of the preposition with. Nilsen observes, however, following Chomsky (Chomsky, 1971 and see also Kooij, 1971) that there are examples with use which do not have acceptable paraphrases in with.

17a. John used his connections to further his career

b. \*John furthered his career with his connections

18a. John used the classroom to propagandise for his favourite doctrines

b. \*John propagandised for his favourite doctrines with the classroom

Notice, however, that these sentences become acceptable if we use through and in respectively. Again rather than taking these facts as raising some interesting questions in their own right, Nilsen uses them simply as an argument against the validity of the test. Thus he rejects the finding that the test identifies a certain sub-set of instruments. That both the tests mentioned reveal something interesting about English is shown by that fact that they will both classify the same prepositional phrases as related. Thus support for treating in the classroom as an instrumental is the acceptability of the paraphrase in use and the possibility of questioning with how:

19. How did John propagandise for his favourite doctrines? In the classroom

Notice that the answer could also be He used the classroom.

At this point let us pause to consider how the four

tests mentioned so far may apply to our problem sentence

1. John smeared the wall with paint

Assume for the moment that we know from the Use-with test and the Relative-Pronoun test that with a brush is an Instrument in the following:

20. John smeared the wall with paint with a new brush  
The one-instance-per-clause constraint, then, tells us that with paint is not an instrumental, thus supporting Nilsen's view that it is an Object (Nilsen, op. cit.). A similar result is obtained from the Relative-Pronoun test, in that

21. How did John smear the wall? \*With paint  
is an ill-formed discourse. However, the Use-with test reveals a more complex situation. Firstly a simple paraphrase of 1 with use is odd, or at least needs some special interpretation made of John's intentions:

22. John used paint to smear the wall (with)  
Secondly, however, if an adjective modifies the noun paint we get a more acceptable sentence and a sentence with a prepositional phrase after smear is fully acceptable:

23a. John used red paint to smear the wall (with)

b. John used (red) paint to smear on the wall

Thus we have conflicting results which seem to suggest that paint both is and is not an Instrument. We shall not attempt to resolve this question fully, but proposals in Chapter 5 below point to a possible solution.

(iii) Preposition test

Fillmore in several places has mentioned that when the proposition contains an Agent, the Instrument is marked by



with, and when there is no Agent it is marked by by (Fillmore, 1968, 1969, 1971a). The correlation of prepositions with inflectional suffixes as markers of case is a tradition of long-standing. The traditional grammars of the 17th and 18th centuries declined nouns with prepositions on the analogy of the Latin declensions. Working within the transformational model Lyons (Lyons, 1968) Langendoen (Langendoen, 1969, 1970) and Fillmore (Fillmore, op. cit.) besides others cited by Nilsen (Nilsen, op. cit.) have assumed that cases in English are signalled in surface structure by prepositions. However, as Nilsen points out, there are problems with this in that one preposition may be used to mark more than one case relation. On the basis of the preposition test, assuming that Fillmore is correct with respect to with, then we should be dealing with the same case, namely an Instrument in both sentence 1 and

24. John painted the wall with Bill

yet this conflicts with our intuitions and with evidence from other tests i.e. no paraphrase with use and the unacceptability of conjoining Bill and a new paint-brush in the following:

25. \*John painted the wall with Bill and a new paint-brush

Thus we cannot accept Fillmore's proposal for marking Instruments and Agents at its face value, since firstly with marks more than one case (at least, Locative, Comitative and Instrumental see Buckingham, 1973, Walmsley, 1971 and Seiler, 1973 the latter on mit in German which has

similar functions and secondly we find examples of noun-phrases which appear to be Instrumentals yet which are not marked by with:

26. John went to town on his bike/in his father's car/by train/on foot

Nilsen makes the same mistake with the preposition test that he makes with regard to earlier ones, namely he accepts arguments against the test simply as arguments against the test and not as constituting interesting facts in themselves. To a certain extent, this invalidates Nilsen's argument, since it is quite conceivable that further study of the use of with and by with a view to explaining their various uses would provide a more adequate form of the Preposition test.

#### 2.1.3. Cruse

Probably the most studied case relation, whether under the guise of a case analysis or not, is that of Agent, especially its relation to the Instrumental case and the possible case Force (Huddleston, 1970 and Nilsen, op. cit.) Cruse (Cruse, 1973) brings together various proposals about the notion of Agent. In particular he is interested in the relation between the occurrence of the surface lexical item do and the presence of an Agent. He identifies three tests based on this assumed relation. Firstly, Gruber (Gruber, 1967) uses as a test for agentivity the substitutability of the verb by do something. However, as Cruse notes, it is difficult to decide what part of the sentence is substituted. Secondly, Halliday (Halliday, 1967) classifies clauses on the basis of their "preferred form of the corresponding

"identifying clause". Thus John punched Bill is a do-clause because its preferred identifying clause is What John did was punch Bill as opposed to ??What happened to Bill was that he punched Bill. A third variant of the test is that used by Anderson (Anderson, 1971a) where the relative acceptability of the question-answer sequence is taken to be diagnostic:

- 27a. What did John do? He punched Bill on the nose  
 b. What happened to John? ??He punched Bill on the nose

Cruse goes on to argue that what any form of the do-test reveals is "not necessarily what is usually referred to by the term 'agentive'". From Lyons, (Lyons, 1968) he infers the following characteristics as generally attributed to Agents:

- (a) the agentive/non-agentive distinction is only relevant for animate nouns.
- (b) obligatorily process verbs such as die do not admit of an agentive interpretation.
- (c) stative verbs cannot have agentive subjects.

and he provides counter-examples to show how the do-test and these principles are in conflict. Thus agents must be animate, yet in 28 if the do-test does identify Agents, then we have an inanimate Agent:

28a. The wind blew down the tree

- b. What the wind did was blow down the tree

Similarly die cannot have an Agent subject, yet 30 is acceptable:

30a. Christ died for us

- b. What Christ did was die for us



Cruse suggests that rather than testing for the presence of an Agent, this test reacts to the presence of one or more of the following features in the sentence, volitive, effective, initiative and agentive. We shall return to this suggestion below (see Chapter 6). However, note that it is difficult to assess the proposal since there is no argument in the study of Cruse for the existence of these features other than the simple fact that they are a taxonomy of those cases where the do-test yields a positive result. However, the feature volitive does seem to correspond in some way to Gruber's second criterion for agentivity, namely the fact that the sentence may be modified by in order to.. (Gruber, 1967 see also Huddleston, 1970, Lee, 1971a).

#### 2.1.4. Lee

Lee's discussion is couched in terms of a non-case grammar (Lee, 1971a). Thus the tests he proposes really test for the agentivity of the verb, rather than for the presence and identification of an Agent. He defines six contexts which he calls "pro-agentive" i.e. allow an agentive verb.

- (a) The sentence is the object complement of command or the infinitival object complement of persuade.

31a. John commanded Mary to leave

- b. \*John commanded Mary to have red hair

- (b) the sentence is object complement of causative have

32a. John was having everyone leave

- b. \*John was having everyone know the answer

- (c) an instrument phrase can be added
- (d) cleverly, enthusiastically, on purpose and similar adverbs can be added
- 33a. John opened the door on purpose
  - b. \*John cleverly believes Mary to be a fool
- (e) in order to.. may be added
- 34a. John opened the door quickly in order to surprise everyone
  - b. \*John was tall in order to surprise everyone
- (f) by plus a nominalisation of the sentence can occur in a sentence which itself is in a "pro-agentive" context
- 35a. John cleverly frightened the children by opening the door quickly
  - b. \*John cleverly frightened the children by being tall

Notice that the tests depend heavily on context: each of the unacceptable sentences could be acceptable if understood in the context of someone pretending or acting the role or property.

#### 2.1.5. Other tests

Any other tests for cases used by linguists seem to fall roughly under the heading of paraphrase tests and are used to discover either how the predicate may be paraphrased or what, if any, preposition may occur with the noun-phrase under analysis. Both of these forms of the test depend on the assumptions firstly that there is a well-defined relation between certain predicates and the cases with which they can occur, these predicates often being underlying predicates like BE, CAUSE, BECOME, and secondly that prepositions do

mark case relations in well-defined ways. This latter is a flat rejection of Nilsen's position (Nilsen, 1973, see 2.1.2. above) and claims that there are principles which govern the use of prepositions, and which we shall see cannot be handled directly in a Fillmorean case grammar.

The claim that there is a well-defined relation between certain predicate types and cases is a necessary one given that cases are relations between noun-phrases and verbs. Although we talk of predicates and mention CAUSE, BE, BECOME, it is not necessary to adopt the Lexical Decomposition Hypothesis, as we could talk of stative, non-stative and causative verbs. (On the relevance of these notions of Fillmorean Case Grammar see Lee, 1971b.)

Notice that both of these tests for cases can only be used successfully once we have a comparatively well developed theory of case grammar and moreover neither of them can be used as the basis for arguments for the existence or necessity of a particular case. Without a more fully developed grammar it is difficult to evaluate the status of intuitions about cases and to decide whether and in what way they are more important than evidence obtained from any of the principles discussed above. Thus as one clear example, we have the discussion of the Path case in Fillmore, (Fillmore, 1971a). Thus Fillmore observes that "a sentence with a path designated can contain an unlimited number of Path expressions" and gives the example:

36. He walked down the hill across the bridge through the pasture to the chapel



The sentence breaks the one-instance-per-clause constraint, yet it appears that Fillmore wants to preserve his intuitions and by so doing restrict in some manner this constraint. The model as it stands provides no means of evaluating this approach.

Given the situation in which no case appears to have any stronger backing than that of intuition, and in which only some cases can be tested for and only then with limited success while others e.g. Experiencer, Object, Counter-Agent (Fillmore, 1971b) are largely ignored, the fundamentals of case grammar seem to be uncertain. Moreover, there are further criticisms of Fillmore's approach and it is these criticisms which bring us closer to an acceptable treatment of case.

## 2.2 Reducing Cases

Being based essentially on intuitions, without strong arguments to support them and their number being subject to fluctuation (cf. the appearance and disappearance of Counter-Agent Fillmore, 1971a, 1971b), one might expect problems relating to the adequacy of Fillmore's proposals. The lack of explicit discussion of case leads to a confusing situation with regard to the relation between case and features such as +animate. Thus in earlier forms of the grammar (Fillmore, 1968, 1969) this feature appears to have been used to distinguish between Agent and Dative on one hand and Instrument and Object on the other. The interest in case as a covert category leads to the neglect of the ways in which this covert category may interact with the surface structure,

and it is precisely this interaction which is of help in any treatment of case. In fact it is probably this emphasis on the covertness of case which is the most harmful factor in Fillmore's approach. So long as case is covert, there is little pressure to look at surface structure. But, insofar as there is little concern with surface structure, Fillmore does not manage to show clearly the relevance or necessity of case.

In this section, although I shall concentrate on the above points, a continuing concern will be the hierarchy of cases given in Fillmore (Fillmore, 1971a): Agent, Experiencer, Instrument, Object, Source, Goal, Locative and Path and Time, although the position of the latter two cases is not clear. Object appears to be something of a pivot point, with two different types of cases arranged either side of it, the first three are those which in surface structure are marked by the so-called abstract or syntactic cases while those to the right of O are "local" cases, (Hjelmslev, 1935-7, Kurylowicz, 1964, Fillmore, 1968, Lyons, 1968, Anderson, 1971a). As the hierarchy now stands there is little reason, other than observational adequacy, why the order should be as given. However, we wish to argue that the order A, E, I is dependent on a deep parallel with S, G, L, that is in accord with the Localist Hypothesis, (Hjelmslev, op. cit., Anderson, 1971a, 1976 among others) A, E, I are "abstract" forms of S, G, L respectively, so that given the order of the latter trio we can naturally predict the order of the abstract variants.

### 2.2.1. Agents and Instruments

In this section we shall consider the Agent and Instrument cases in relation to Huddleston's criticism and Fillmore's reply (Huddleston, 1970, Fillmore, 1971a). Our sole concern will be with the presentation of the problems, their solution will be dealt with below (Chapter 4 and 5).

The main force of Huddleston's argument against Fillmore's analysis of A and I is that he allows the feature of animacy to over-ride other facts about sentences containing agents and instruments,

37a. John opened the door

b. The key opened the door

c. The wind opened the door

Fillmore (Fillmore, 1968) classes the subjects of 37b and 37c as I, apparently on the basis of their both being inanimate. However, as Huddleston points out, only 37b has a corresponding sentence in which an agent may occur. In fact, Fillmore needs to sub-categorise the I case in order to account for this fact, granted that the animacy feature is relevant to the A and I cases. The question to be asked is whether this is a valid means of distinguishing the two cases. Huddleston queries this on two accounts: firstly why is it the animacy feature and not any other feature which is distinctive, is this an accidental fact or a necessary property of English, and secondly why is a feature distinctive at all rather than the intention of the causer?

If Fillmore is to use any feature as a means of case



differentiation, then he should give some firm principle to support this. Without such an argument we have no means of judging whether this relation between animacy and agents is a necessary or contingent fact, and in any case it would only be in the former situation that the test would have any real validity and significance for our theory of language. Fillmore must also specify where the cut-off point comes in the hierarchy of features for nouns with regards to their relevance for case assignment, if there is such a point. Thus Nilsen (Nilsen, 1973) goes so far as to say that there is no cut-off point, that all features are relevant and that there is consequently no need for case as an autonomous element of deep structure since it can be assigned by some interpretive means to the bundle of features. Nilsen does now show clearly how such a grammar would operate, so that it is difficult to evaluate his proposals, but certainly he seems to be disregarding the view of case as a relation between a verb and a noun-phrase.

Huddleston argues that animacy is a contingent feature of the A case on the grounds that only animate beings can act intentionally and it is this property which is relevant to the A/I distinction, or rather what he calls the Agent/Force distinction. If the subject is always to be treated as A in 37a, then the grammar needs some other means of distinguishing between John as the performer of an intentional action and John as the cause of an event. We argue for the same distinction below (Chapter 4 and 5).

Fillmore makes his reply to this criticism in his most

recent work on case grammar (Fillmore, 1971a). He states that "I no longer confuse selection restriction to animates with true case-like notions", preparing the reader for some convincing argument against Huddleston, since "the possibility of positing some new case, say Force, seems unnecessary". Notice that this comment brings out clearly the major problem of Fillmore's grammar: it is possible to posit such a case and the theory does not prevent this at all, so that it does not restrict, on this point, the set of possible grammars.

His first point against the Force case is that it does not occur in contrast with either A or I, but as we shall see below this is not strictly true. Certainly it is difficult to assess the force of this point, since Fillmore does not say what he would accept as an example of A and F appearing in contrast. In fact it seems that he has already accepted, or gone part way to accepting such a contrast in admitting the force of Huddleston's argument that sentences like 37a are ambiguous between the intentional agent and force reading. Moreover, while accepting the ambiguity and rejecting the possibility of the F case Fillmore offers no alternative analysis in terms of his own grammar which will capture the difference.

The main force of his argument, having asserted that no third case is necessary, relates to whether we should include those examples which Huddleston calls Forces within the A or I case. Thus, if we conflate A and F we need added restrictions on the grammar to restrict noun-phrases



"representing acts of God and changes in nature" from occurring with I, whether it be a noun-phrase or "an instrumentally-construed by-clause" (but see below).

However, if we class F with I then such restrictions are not necessary. He supports his case by arguing that forces of nature can occur in sentences which have Agents, especially God.

However, the argument is not satisfying as he only deals with forces of nature and acts of God and leaves out of account noun-phrases referring to machines, computers, rocks, trees, furniture and other immobilia (see Bacon 1971 for a list of possible instruments in Fillmore's sense of the term). Secondly, in order to accept forces of nature as instruments co-occurring with agents, we need to make some special assumptions about the world or have some particular knowledge about man's ability to control weather e.g.

38. The Canadians can put out forest fires with rain  
Then Fillmore's supporting argument depends on some special assumptions, and similar special assumptions can be made in order to accept sentences which support the claim that F is to be classed with A, since it is possible to have Forces in sentences with "instrumentally-construed by-clauses":

39. The North Wind killed all those who did not believe  
in him by sweeping them off the cliffs

Notice that even personification is not necessary

40. The heavy snowstorm killed many animals by cutting  
off their food-supply

which suggest that F, if it is to be conflated with anything



should be conflated with Agent. However, until Fillmore gives a more detailed analysis of such sentences within a fuller grammar, instead of a programme for such an analysis his arguments cannot be convincingly assessed.

A further criticism of Fillmore's position depends on the occurrence of prepositions. A brief digression is necessary here to clarify the situation and our assumptions with regards to the relation between Case Relations which are elements of "deep" structure and Case Forms which are typically prepositions in English (see Anderson 1976 for further discussion of CRs and CFs). Much of what follows is dependent on the identity of prepositions and CFs and it has some implications for Case grammar ignored by Fillmore. We wish to suggest that this hypothesis must be accepted and that the data which it provides is useful for case testing, by exploring the consequences of not accepting it. Thus if we deny that prepositions are CFs we are faced with several problems: firstly do CRs ever have surface manifestation and if so what is it, if not what evidence do we have for CRs; secondly what are prepositions if not CFs, either we assert that they are completely arbitrary in their occurrence, which raises problems for certain cross-language generalisations about prepositions and "case-endings", (see below) or we accept that there is some conditioning factor for the occurrence of prepositions, in which case we need to search for that factor. This latter suggestion seems highly unproductive and faces the problem of explaining the relation in many languages between CFs and prepositions

where the one clarifies or modifies the other. As an example, consider Latin, where the preposition ab occurs with the "ablative" case form to mark the noun as agent, cum to mark the comitative and the simple inflection without supporting preposition marks the instrument. As an example where the case inflection clarifies the preposition rather than vice versa as seen above, we find in occurring with the "ablative" and accusative inflection so that in oppido (ablative) means "in the town" while in oppidum (accusative) means "into the town".

If we accept that there is a relation between CRs and prepositions, we may still choose between two assumptions. The weaker says that it is a mere accident that two CRs which we can distinguish on other grounds can be marked by the same preposition, e.g. by marking A and I for Fillmore, while the stronger says that if two CRs can be marked by the same preposition, there must be some motivation for it: this is basically what Zwicky calls a Naturalness Assumption, (Zwicky, 1968). Thus we cannot accept identity of preposition marking as a fact of language without attempting some explanation and the most obvious and the strongest form of explanation would be one in terms of some underlying identity between the two CRs. This is interesting when taken in conjunction with Fillmore's assertion (Fillmore, 1968) that where the traditional grammarians took certain facts as given and others as to be explained he wishes to alter the priorities and explain the given and accept as given the facts which traditional grammarians wished to



explain. This aim would appear to correlate with Fillmore's adoption of the weaker hypothesis about preposition occurrence, as he accepts as a fact that the same preposition can mark two or even more cases. Consider, however, this distinction between "given" and "to be explained". Is there, in fact, any validity to such a distinction? In other words can a linguist be content with accepting facts and not explaining them? The only possible answer which preserves intact the linguist's aim of explanatory adequacy is that facts can only be accepted as "given" with respect to some problem and that they also, at some point, must be taken as the "problem" to be explained. It is in failing to reverse the order that Fillmore's proposals have become open to doubt.

As a general principle, then we assume that other things being equal the stronger hypothesis is preferable a priori. Notice further that being stronger, the hypothesis is also more open to refutation (Popper, 1963). Thus if our theory is to aim at explanation, we need to explain why any preposition can mark two cases, and the easiest approach to this is to adopt the strongest hypothesis, namely underlying identity. In the light of this, consider the use of by and with and how Fillmore handles them.

The problem is that if we adopt Fillmore's cases A and I as they stand then we must reject or at least modify the strong hypothesis, since both A and I can be marked by the preposition by. The situation becomes all the more interesting when viewed in relation to Huddleston's Force



case, since it is only a sub-set of the instances of I which can be marked with by. Fillmore defines the I case (Fillmore, 1971a) as the "stimulus or immediate physical cause of an event, where by "stimulus" he could be understood as meaning noun phrases referring to objects used as instruments while "immediate physical cause" would refer to acts of God etc. Certainly Akatsuka (Akatsuka, 1971) appears to read Fillmore in this light, and argues that we should distinguish between two types of Instrument corresponding to objects used and physical causes. Thus on the basis of some Japanese data he sub-categorises I as  $Inst_1$  and  $Inst_2$ . The distinction carries over into English and is paralleled by the I/F distinction of Huddleston. Notice that it turns out to be only those instances of  $Inst_2$  or of F which are marked by by. For Fillmore marks the Agent and the Instrument in the absence of an Agent by by while with marks the instrument when there is an Agent present, whether it is present in surface structure or not, (Fillmore, 1968, 1969). Thus in the following the presence of with reflects the fact that an Agent is understood:

41a. The rats were killed by fire

b. The rats were killed with fire

If we keep A and I apart as does Fillmore, whether we sub-categorise I or not which may itself be a dubious move, there is still no obvious means of relating the double function of by as A and I marker.

The above discussion was dependent on Fillmore's earlier treatment, but in his most recent work on case grammar

(Fillmore, 1971a) he rejects the assumption that by is associated with the Agent NP. Instead by is now introduced by the Passive transformation. The effect of the transformation is to re-rank one of the cases, either Experiencer, Object or Goal and "put it in first position", this being the position of the case which becomes the subject; this re-ranking brings about a modification in the form of the verb and the preposition by is associated "with the noun-phrase that got demoted", that is by seems no longer to mark a case so much as the fact that a noun-phrase has been demoted. The suggestion is not worked out explicitly in the text, so that it is difficult to see exactly how it will operate and whether it is observationally adequate.

However, there is one major drawback, namely preposition insertion no longer looks to be a unitary phenomenon. Thus we might reject the proposal simply on the grounds that by does not occur solely as the result of the passive transformation. If it did, then there might be some means around the problem. Thus, if by-insertion is the result of the passive transformation, then it follows that somewhere in the derivation of the following the passive has applied:

42. John surprised everyone by arriving on time

In fact, such sentences as 42 provide support for the existence of the F case, as the by-clause, like Huddleston's F and Akatsuka's  $\text{Inst}_2$  refers to what are essentially events whose defining property, like that of Agents, is that they "cause" other events, unlike  $\text{Inst}_1$  marked by with which are instrumentally involved in the action.



To sum up, we have considered Huddleston's criticism of Fillmore's A and I cases, seen how Fillmore's reply is really no reply at all and shown that his treatment forces us to reject the strong hypothesis about the relation between CRs and prepositions and conceals facts about agents and causal events which can explain the occurrence of by. However, there is one further and final argument against the analysis, based on the fact that an analysis along the lines suggested above with A and F treated together will allow a simplification in the transformational rules.

As already mentioned, the case hierarchy places E before I, such that in post-verbal position E will precede I, as in 42 above where E = everyone and I = by arriving on time, while the rule of Subject-Formation will make E subject if there is no A but there is an I, i.e. E is the left-most case. However, this makes the wrong predictions for English (Akatsuka (Akatsuka, op. cit.) points out that the situation is worse for Japanese where only a restricted set of Instrument noun-phrases appear as the subjects of psychological predicates). According to Fillmore,

43. The noise frightened John  
has an Experiencer, John and an Instrument, the noise, but according to the Subject-Formation rule the subject of the sentence should be E, since this is the left-most case. In order to account for the fact that I is the subject, Fillmore needs a rule of Experiencer-shunting which moves it away from its normal position. Thus I will become the left-most case and the victim of Subject-Formation. This rule seems



to be highly questionable, if only because it is highly restricted. Notice that it is a re-ranking rule, like the Passive transformation, yet does not bring about any modification in the form of the verb nor does it result in the marking of the demoted noun-phrase by by. This unsatisfactory situation is removed both for English and for Japanese if those NPs which can appear as the subject of psychological predicates are treated as Agents or perhaps Forces. Thus there are good grounds internal to Fillmore's grammar which suggest some re-analysis of Agents and Instruments.

#### 2.2.2. Objects, Experiencers and Goals

In this section I wish to explore the question of whether the Object, Experiencer and Goal cases can be related and to investigate whether, within the framework of Fillmore's grammar, one can account for any of the facts to be adduced for this relationship. As suggested already cases may be related or argued for on the grounds of intuition, preposition-marking, implications, places of occurrence in surface structure and we can add transformational potential. However, intuitions can only be used as indicative of relations, as a source of hypotheses which can then be tested in terms of syntactic or semantic properties.

With respect to Experiencer and Object, the feature of animacy seems to be playing the same role as it does, whether Fillmore acknowledges it or not, when it distinguishes between A and I. In the earlier form of case grammar, there has only one case Dative (Fillmore, 1969, 1969) where

there are now Experiencer and Goal (Fillmore, 1971b). Thus the indirect object of verbs of giving which in the later version are Goals were formerly Datives as were the animate objects of transitive verbs. Fillmore says of Dative (Fillmore, 1971b) that he has "reanalysed it by spreading it around the other cases" and proceeds to define E and O. This seems to be symptomatic of his approach in general: Fillmore makes an important change to his list of cases yet leaves it largely unmotivated, so that we are given little insight into what Fillmore sees as evidence for cases. In fact we shall see that by retaining the old Dative, Fillmore had an easier means of accounting for the relations between E and G.

#### 2.2.2.1. Dative

In his earlier works this case was defined as "the case of the animate being affected by the state or action identified by the verb" (Fillmore, 1968), which leads to a situation in which any animate noun must be either Dative or Agent. Thus the subjects of 44 and 45 and the objects of 46 and 47 are Datives:

44. John has a book

45. John is sad

46. Bill surprised John

47. Bill killed John

This requires two different case frames for the verb die (see Huddleston, 1970) one in which the subject is animate and therefore Dative and the other in which the subject is inanimate and therefore Object

48. John died

49. The plant died

Lehrer (Lehrer, 1970) points out a more extreme example.

Thus if the animacy feature is so significant for case assignment, then the verb burn must take two types of object, one D the other O:

50a. John burned Mary

b. John burned the table

Such examples make it very clear that such a dependency on features of the noun has little to do with case. As frequently observed by Fillmore, case is a relation between a noun-phrase and the verb and identifies the role which that noun phrase plays in the state or event identified. Thus we must conclude that if Mary is Dative in 50a and the table is Object, then these two nouns play different roles in the event of burning. (It is not significant for the argument that burn is ambiguous between causing an object to burn and causing a burn mark to appear on the object.) Intuitively, there seems to be no grounds for asserting this difference in role, since in both cases the event and the effect of that event are the same whether the object affected is animate or not. The only difference lies in the fact that in one case the affected object experiences pain. Taken to its logical conclusion, this approach to case is likely to become merely a variant of Chomsky's system of selectional features (Chomsky, 1965) Nilsen's work would appear to be the result of this development (Nilsen, 1972, 1973).



#### 2.2.2.2. Experiencer and Goal

If there are problems with the old Dative one might expect that the "new" cases E and G which develop out of it would go some way to dealing with them. In fact, nothing could apparently be further from the truth. E is the case associated with "a genuine (?) psychological event or mental state", G is the case of the "receiver as destination", while O appears with "non-psychological verbs which indicate a change of state" and he gives as an example die (Fillmore, 1971a). Notice that at least we no longer have two possible cases as the subject of this verb.

The restriction of E to verbs of mental events and states requires some comment. This seems to be some reaction against defining a case in terms of noun features, since he is now defining a case, or at least restricting its occurrence, in terms of the verb, whereas his view of case as a noun-verb relation suggests that some mixture of the two would be necessary, i.e. verb and noun features. Again this idea of verb restricting case could be taken to extremes, such that we could have a Fact case with the Kiparskys' factive verb (Kiparsky and Kiparsky, 1971).

Consider the fact also that it seems just as acceptable to say that someone experiences being killed just as he experiences psychological states and processes. In fact, in Fillmore's recent case grammar paper (Fillmore, 1971a) there appears to be no case to accommodate the object of verbs like kill, since there is no longer a Dative. Since

the verb does not denote a psychological event, the case cannot be E, which leaves O as the possibility, unless Fillmore would allow G here. Such an analysis ignores a property of the earlier Dative treatment, namely the capturing of the intuition that there is a relation between the object of verbs like kill and other verbs whether psychological or not in which someone or something is affected or operated on. In fact there are good reasons to believe that there is a much closer relation between G and E such that the only difference lies in the abstractness of the two cases. Such an approach would be consistent with a Localist view of case grammar, (Hjelmslev, 1935-7, Anderson, 1971a, 1976 among others), the basic claim being that spatial notions i.e. Goal, Source, underly more abstract notions like Fillmore's E or what others might call "patient" of verbs like kill.

Thus, there seem to be intuitive arguments against Fillmore's analysis of case, that is intuitions differ and we suggest that evidence from prepositional usage and positions of occurrence in surface structure will select the Localist view rather than Fillmore's.

#### 2.2.2.3. Prepositional usage

Leech (Leech, 1969) says that to, onto and into respectively are the dynamic counterparts of at, on and in, so that the occurrence of one of the dynamic prepositions in an expression of movement implies a sentence with the corresponding static preposition. However, we must also take into account the preposition towards when dealing with goals, since this does not imply that the goal was reached.



Thus in spatial terms (and also in abstract terms, see below) we need to distinguish between achieved and non-achieved goal, the one marked typically by to, the other by towards or for as in set out for. Notice that Fillmore does not mention this possible distinction. The problem is, however, that to and for are not limited to what Fillmore calls the Goal case.

- (a) The preposition to marks the noun-phrase occurring in "object" position after verbs like happen and come and occur when they refer to psychological events.

51. Something has happened to Bill since John last saw him

52. The idea came/occurred to me last night

Since 52 refers to some psychological event, Fillmore should treat to me as an underlying E, yet it is marked with a spatial preposition. 51 is more interesting in that the "thing that happened to Bill" can be either a mental event or a physical action:

53. What happened to Bill? Some thugs broke his ribs/  
His father's death shook him badly

It does not seem to be too much of a distortion to claim that Bill is the recipient of a mental event or physical action, but whether one makes this claim or not, the preposition used is still to be accounted for.

- (b) do seems to function as the causative counterpart of happen and again to marks the object:

54. John has done something to Bill

where do something may refer to any mental or physical action,



surprise, amaze, upset, kill, shoot etc.

- (c) to marks the object of psychological verbs in certain constructions such as:

55. Alsations are frightening to many people

The examples above all deal with the types of constructions in which to may appear, but, as yet, no mention has been made of for. The literature on case grammar recognises this preposition as the marker of Fillmore's Benefactive case (Fillmore, 1968), but there are unresolved problems with the nature of this case (Fillmore, 1971a) which we cannot deal with here (see Chapter 5 below). Thus in

56. John bought a book for Bill

for Bill would be a Benefactive. However, such a view would appear to be too superficial since the sentence is, in fact, ambiguous as to what is actually "for Bill", on one reading it is the actual book which is for Bill, while on the other it is the act of buying which is for Bill, from which he is intended to benefit. This latter interpretation is clearer if we use on behalf of. The situation can be exemplified by the following where there are two for-phrases, the second alternating with on behalf of:

57. John bought a book for Bill <sup>on behalf of</sup> his sister  
for

#### 2.2.2.4. Verbal Paraphrases

We have already mentioned that one possible test for cases is that of considering what verbal paraphrases are possible and what implications there can be drawn from the sentence. In his discussion of Goal, Fillmore (1971a)

says that the indirect object of some verbs is in the Goal case and as such note that it is marked by to, the preposition of spatial movement:

58. John gave the book to Bill

However, it is possible to "give" other things than concrete objects such as books e.g. help, suggestion, advice, a hit, a thrashing etc.

Anderson, (Anderson, 1971a, 1971b) suggests that the surface verb help derives from an underlying structure which can also surface as give help. In the same way it is not unlikely that a similar underlying structure a derivations could relate give a surprise/shock and the verbs surprise and shock, similarly give a thrashing and thrash. Notice, however, that in Fillmore's terms give a book requires a Goal, the object of the verb surprise must be E, since it is a psychological predicate, but is there an E with the decomposed form give a surprise? Whatever Fillmore's treatment of such structures, he must take into account that here we have the same verb being used, give, for what may appear to be different case frames, one containing O, the other E.

Similar evidence comes from the verbs receive and get. These verbs seem to function as the converses of give, for while the latter has the Source as surface subject and Goal as indirect object, the former have the Goal as subject and Source as indirect object.

59. John got/received a book from Bill



In this case we need to be able to account for the para-phrase relationship between:

60a. John struck Bill

b. Bill received a blow <sup>at the hands of</sup> Bill  
from

(see Anderson, 1971a for further examples of such para-phrase relations.) Get is more interesting in that it is used more widely than receive and is widely viewed as a variant of the be-passive (Lakoff R, 1971). One important point which we shall return to below is that much of the data above could be used to support the hypothesis that at some point in the derivation verbs have an essentially nominal structure (see also Miller, 1973 and Chapter 5 below).

#### 2.2.2.5. Transformations

##### (a) The Passive

In English and several other languages, there are two possible passives, one with direct objects as subject, the other with indirect objects. Thus from the structure underlying 61a, both 61b and 61c can be derived:

61a. John gave the book to Mary

b. The book was given to Mary by John

c. Mary was given the book by John

Historically passives formed on the direct object have always been possible in English, while the "dative" passive is of more recent origin, while French and many other languages do not allow it at all. Thus it seems likely that, in Fillmore's terms, there was a time when the passive only applied to the O case and then extended to the G case.



Notice, however, that E can also be the subject of a passive as in:

62. Mary was frightened by John

Thus we have a situation in which one movement transformation treats three different cases in exactly the same way, i.e. promotes them to subject. In order to capture the identity of these cases, E, O, and G, for the purpose of this transformation, Fillmore introduces a rule of Accusative-Marking, which marks the cases under discussion as +Acc so that only cases so marked may be promoted to subject by the passive transformation. Notice that this is an arbitrary feature which disguises some deeper relation, it does not explain why just these three cases can be passivised.

In fact, it is not the case that just these three cases may be passivised, as the Benefactive, at least in some dialects, may also be the subject of a passive sentence. Fillmore (Fillmore, 1965, see also Postal, 1972) marks the following as unacceptable:

63. Celia was bought a deathray by Lou

Fillmore (Fillmore, 1965) handles such sentences by postulating two separate rules, one of TO-Indirect Object Shift, the other of FOR-Indirect Object Shift and having the passive transformation apply on the noun-phrase which immediately follows the verb. FOR-Indirect Object Shift applies after Passive, so that it never creates Direct Objects which can be passivised, thus blocking 63. In Fillmore's case grammar, the treatment would be along similar lines, so that Accusative-marking will apply to

Benefactives after Passivisation. However, this treatment ignores the fact that several dialects do not have the restrictions that Fillmore imposes (Postal, op. cit.). However, the fact that some dialects do distinguish between E, O and G as opposed to B would provide some support for his most recent treatment of the Benefactive case. Thus he suggests (Fillmore, 1971a) that the Benefactive may be the Goal case of some higher proposition containing the predicate GIVE, so the structure of

64. John did it for Mary  
could be presented as something like "John GIVE to Mary (he did it)." In this way Accusative-Marking could apply cyclically, firstly to E, O and G and then to B, thus keeping the two classes distinct.

(b) Indirect-Object Shift

This rule we have already mentioned in the above discussion (for a fuller discussion of the phenomenon see also Green, 1974, Anderson, 1976). It is the rule which makes Goals and Benefactives direct objects as in 65b and 66b which derive from 65a and 66a respectively:

65a. John sent the package to Paula

b. John sent Paula the package

66a. John caught a rabbit for Mary

b. John caught Mary a rabbit

Again a single rule treats as identical two cases which Fillmore keeps distinct in his case list, yet has to mark their similarity with an arbitrary feature +Acc.

A Localist treatment would involve positing some



essential identity between Goal, Experiencer and Object, the latter only under certain circumstances. This identity would be framed in terms of the Goal or Allative case.

(See Chapter 7 for further discussion of the relation between Localist cases and Fillmore's). However, such a case belongs to essentially motional predications and if Fillmore's E is to be related to such a case, then we are faced with possible problems with the E that appears with statives like be sad, be happy.

This problem can best be resolved by reconsidering the former Dative case. This could appear with both stative and non-stative predicates, thus the indirect object of give was originally viewed as a Dative as was the subject of have (Fillmore, 1968, 1969). As Kilby observes (Kilby, 1972), the distinction between Locative and Dative, like that between A and I and G and E rests essentially on the feature of animacy, yet both L and D, for example, control have-insertion (Fillmore, op. cit.). Since Fillmore no longer views animacy as relevant to case assignment, there is every reason to view the former Dative, now Experiencer in John is sad as a Locative, just as we view the Experiencer in non-stative sentences as an Allative.

This brings out another fault in Fillmore's method. If there is an intuitively felt relationship between the person who experiences sadness in John is sad and the one who experiences fear in John frightened Bill, there is no reason to embody this intuitively felt relation in terms of the notion of case, by saying that both predicates require



an E in their case frame. By doing so, the linguist is using a property of the verb, something like "referring to mental event or state" to set up relations, i.e. cases, which hopefully will have relevance to surface structure. Insofar as there appears to be little support for such an identity of experiencers of states and experiencers of events, the step taken by Fillmore seems to be unwarranted. In attempting to study covert relations, Fillmore appears to have progress<sup>ed</sup> too far from the surface structure which is going to support those very covert relations and has, in some sense, created a new concept of case, different from the noun-verb relation with which he started.

If we do split the E case into an Allative and Locative, this has some implications for the case hierarchy. We gave this earlier as A,E,I,O,S,G,L. Ignoring O for the moment as the one non-spatial case in a Localist Case Grammar, in relating E and G via a case Allative, we have taken the first step to relating the two parts of the hierarchy in that we can account for the position of the "abstract" case E in terms of the concrete case G. Further, this suggests that we should be able to relate A and S and I and L as "abstract"-concrete pairs. We can explore this hypothesis by considering what case-marking relations there are to be found in language, while following our main intention of showing some facts about language which Fillmore cannot handle.

### 2.2.3. Case Forms

When looking at Case Forms, there are three possible

approaches, firstly we can look at a language synchronically to see what Case Relations can be realised in the same Case Form. Secondly we can take the diachronic approach to see what historical relations there are between Case Forms. Thirdly, in order to see that any such relations are not accidental or peculiar to one particular language, we can take the comparative view.

#### 2.2.3.1. Intra-Language Relations

If there is a relation between A and I on the one hand and the concrete counter-parts S and L on the other, this is not to say that it is such that the case-marking is always the same. Thus if with can mark both L and I, this does not mean that it will do so whenever these cases occur. The actual conditions which must be placed on prepositions will not be considered here, such a study lies beyond our present scope (see Chapter 6, below); the important point for our present discussion is that such a marking identity exists.

##### (a) Synchronic

We shall not go into detail here with respect to with and by, as these prepositions are a minor concern of our study in general. However, we can distinguish at least three functions for with, Locative, Comitative and Instrumental;

67. The students are with the professor

68. John killed the rats with Mary

69. John killed the rats with poison

Similarly, by can mark the Locative and Instrumental cases



as well as the Path and Agent.

70. John went and stood by Bill

71. John surprised Mary by turning up early

72. John passed by the church on the way to the shops

73. John was killed by Mary

The Source case can be marked by from, off (from on) and out of, and we would also wish to claim that of is a Source marker also, firstly on historical grounds, of and off are reflexes of the same form and secondly on the grounds of complementary distribution of of and from (see Miller, 1972b). These prepositions can be used to mark the corresponding abstract case, namely the Force case, but only in certain constructions on the assumption that Force and Agent are related.

74. John is dying of/from hunger

75. John acted from/out of anger/hatred/spite

Notice that expressions like result from, is the source of can also mark the causal relation:

76. A great deal of bad feeling resulted from John's actions

77. John's actions were the source of much disagreement  
Thus Modern English provides a certain amount of support for the hypothesised relation between Sources and Agents and Locatives and Instruments.

#### (b) Diachronic

As one might expect, the present situation with regards to prepositional usage is the result of historical development, a development essentially of abstract uses from the original local meaning. This suggests another property



which we might require a theory to have, namely to be able to account for diachronic matters in essentially the same way as it accounts for synchronic matters, that is, it should account for change in prepositional usage in terms of the same hypotheses with which it accounts for prepositional usage in the synchronic description.

with The problem with this preposition is that it, in fact, represents two earlier forms whose different uses became associated with one of those forms, these prepositions being reflexes of Germanic \*miði and \*wiþ, both of which originally marked location, (Graur, 1932). The former preposition, with the genitive case, marks movement towards, and with the dative marks proximity and association; from these uses develop those of accompaniment and instrument. In Middle English further developments lead to its use as the marker of the agent. \*wiþ was originally used in the Norse influenced areas of the North (Mustanoja, 1960) where it came to be used as an equivalent of mid, the reflex of \*miði. Originally \*wiþ meant "towards, opposite, against, along". By the 14th century, only with is found and with all the functions of the modern preposition besides being used as an agent marker. As late as Shakespeare, (Green, 1914) it marks the agent and the animate intermediary, although by this time such uses are on the wane:

78a. He did arrest me with an officer (i.e. by means of, he had an officer..)

b. He is attended with a desperate train

Brøndal (Brøndal, 1950) cites examples from Irish dialects

of English which still use with where in modern English by is used, which suggests that they stabilised their prepositional usage in a different manner than did Early Modern English.

by In Old English this was a local preposition denoting proximity or in the presence of. With verbs of motion it had the sense of "along, through", from which developed such uses as the marking of the material or means used. Although instrumental and causal uses are rare in O.E., they develop in M.E. such that, by Shakespeare's time, the situation is that of Modern English. The development of such abstract instrumental meanings is in keeping with the Localist theory of the relation between expressions of spatial location and instrument, but one point which is in need of clarification is the step from instrumental to agentive uses, which as we shall see below is a common development.

from In Germanic \*fram was a preposition of separation. "This representation of 'coming from a place' yields to that of causality as soon as the place stands no more for the origin of the action but becomes identical with the causer and doer thereof." (Green, op. cit.) Mustanoja (Mustanoja, op. cit.) suggests that the development of the agentive function is due to its denoting the source of the action of verbs such as give, send etc. (compare John gave Bill a thrashing, Bill received a thrashing from John). Although the agentive use is common in O.E. and continues into M.E., by the 14th century, it is on the wane so that



it is limited to marking the cause, as we have already shown for Modern English.

of Cognate with the Latin ablative preposition ab- "from", of had an original local sense of "from, out of" and was used to mark the source. Although rarely found as a causal marker in O.E., this use developed in M.E., so that by the 16th century it was the most common agentive marker with a passive verb (Mustanoja, op. cit.). This use of of might have influenced its development in nominalisations.

Consider the situation in P.I.E. under the analysis of this hypothesised language as an "ergative" language (see Knobloch, 1953, Martinet, 1962, Vaillant, 1936, Velten, 1931, 1932a, 1932b among others). The nominative of the Classical languages would have been originally the marker of the agent and this subsequently became the marker of the "subject" (for a consideration of the relation between Anderson's Ergative case and subjects see Anderson, 1976). Similarly, in nominalisations in M.E., of marked the agent and this form was generalised as the general "linking" form for any noun-phrase, e.g. the ambiguity of the shooting of the hunters can only be resolved by using the agent marker by, just as Latin adopted ab for this agentive marking function. Notice that in this case it would appear that M.E. was possibly "ergative" with respect of nominalisations (for a discussion of Modern English nominalisations with respect to ergativity see Anderson, op. cit.).

Thus the synchronic and diachronic data from English provide some support for the Localist hypothesis and suggest



some relations which case grammar must be able to handle. However, it is conceivable that these relations are merely an accidental fact about English, so that, with respect to Linguistic Theory they have no great significance. Still this does not mean that an analysis which treats them as accidental is of equal status with one which treats them as non-accidental; any grammar which captures generalisations is preferable to one which does not. However, in the next section, we shall show that such relations are not accidental, that they are of wide occurrence and are therefore to be accounted for systematically in Linguistic Theory.

#### 2.2.3.2. Inter-Language Comparisons

Adopting the same case system as Fillmore (Fillmore, 1971a), Starosta (Starosta, 1970) tabulates instances from seven languages, English, German, Japanese, Korean, Nunggubuyu, Sora and Tsou in which two cases have the same case realisation. From the results of this comparison, he concludes that "the realisation of two case relations by the same case form is not random". Of all possible case neutralisations "more than half are rare." In fact, it seems possible to set up chains of cases such that there is some language which, for any pair of them, has them neutralised in the surface structure, while languages which neutralise two cases from different chains are very rare. Thus the chains would be something like:

Locative-Comitative-Instrumental-Agentive

Source/Ablative-Agentive

Goal-Dative-Benefactive-Experiencer-Object/Patient



Notice that the three changes correspond to Ablative, Locative and Allative of Localist Case Grammar (see Anderson, 1971a, although there Loc and All are conflated as Loc). Let us consider, then, each of these chains. The Source-Agent identity is studied by Mustanoja (Mustanoja, op. cit.) for English and by Green (Green, op. cit.) for the Germanic languages in general. He shows that all of them, at some point in their development, used one of the prepositions \*fram-"from", \*af-"of", \*fon(a) German von-"from" or \*uz as the agent marker. One form for the Comitative and Instrumental is used in some Philippine languages (Nilsen, op. cit.) and Starosta (Starosta, op. cit.) cites Tibetan, Eskimo and Pashto as non-Indo-European languages with the same identity of marking for the two cases. Experiencer, Dative and the marker of the infinitive are similar in Japanese, Hebrew and some Australian languages.

For the first chain, Latin is particularly interesting, as all four cases besides the Dative in some declensions have the same inflectional suffix on the noun, the main distinguishing device being the preposition used. It is customary in grammars of Latin to divide the "ablative" case into three categories: the ablative simple which is marked by the preposition ex for expressions of concrete movement and by ab for both concrete and abstract, i.e. agentive; the locative, again marked by a preposition; the instrumental. This latter case is itself further divisible (Ernout and Thomas, 1951). Thus grammars of



Latin mention the "instrumental", no preposition used, the "comitative" marked by cum and the instrumental of attendant circumstances, usually unmarked. This situation is particularly interesting when viewed in relation to the English preposition with (for the same parallels with the German preposition bei see Dreike, 1973 and also Conlin, 1974 for further discussion of the Latin "instrumental" case). Thus with has temporal/causal uses, as in;

79. With the window open, John cannot work  
In Latin, cum, usually translated as "with", can appear as a causal or temporal clause marker, the difference being marked by the use of the indicative or subjunctive being used in the verb respectively:

80. Cum Caesar hostes vixerat, in Romam rediit

'When Caesar had conquered the enemy, he returned to Rome'

81. Cum Caesar hostes vixisset, in Romam rediit

'Since Caesar had conquered the enemy, he returned to Rome'

Thus, cum, a comitative marker, can mark temporal and causal relations, but the "instrumental" case, can itself be used in the "ablative absolute" construction to paraphrase both 80 and 81, (this construction involves putting both the past participle and the object of the verb in the "ablative" case, where the subject of the action must be co-referential with the subject of the main verb);

82. Victis hostibus, in Romam Caesar rediit

conquered-abl-pl. enemy-abl.pl. Caesar returned to Rome

That is, 82 is ambiguous just as the nearest English



translation is ambiguous,

83. With the enemy conquered, Caesar returned to Rome and moreover, comparable grammatical devices are used in both constructions.

Swahili, in its use of the particle na shows the same relations between location, instruments and agents, and, although the evidence is to be found in the system of verbal extensions, the same relations can be found as those in the third chain. The particle na is derived from the locative suffix ni plus the a of relationship (see Ashton, 1944 and Chapter 5 below for further discussion), thus it has a basic locative origin. It is used in expressions of possession:

84. Juma ana kitabu  
Juma he-with book  
'Juma has a book'

as a comitative marker:

85. Juma alikwenda sokoni na Khamisi  
'Juma went to market with Khamisi'

and in expressions of the agent with the passive verb:

86. Chakula kilipikwa na Ali  
'The food was cooked by Ali'

It also appears as a verbal extension, in which case it is called the "associative" (Ashton, op. cit., Polome, 1967, Whiteley, 1968). Thus from the root piga-"to beat" we can form pigana-"to beat each other, fight" (compare French se battre), from ona-"to see" onana-"to see each other, meet". With this extension the object must also be marked

by the particle na:

87. Juma alipatana na Ali

Juma he-past-get-with with Ali

'Juma got together with/agreed with Ali'

The verbal extension which is relevant to the relation between Goal and Benefactive goes under the name of "prepositional" (Ashton, op. cit.) or "oblique" (Whiteley, op. cit.) and appears as either -i- or -li-. Ashton lists five uses of this extension.

- (a) The first use is characterised as the expression of "do to, for, or on behalf of";

88a. Ataharibia furaha yetu

he-will-destroy-for pleasure pref.-ours

'He will destroy our pleasure for us'

b. Mpishi alikupikia chakula

pref-cook he-past-you-cook-for food

'The cook cooked some food for you'

- (b) to express motion towards but never from:

89. Mtoto alikimbilia mama wake

pref.-child he-past-run-to mother pref.-his

'The child ran off to his mother'

In most cases the difference between the extended and non-extended forms of verbs of movement is slight, the extended form being generally more emphatic as to the subject reaching the goal.

- (c) to express purpose:

90. Nataka kisu cha kukatia hyama

I-want pref.-knife pref.-of to-cut-for meat

'I want a knife      to cut meat with  
                             for cutting meat with

- (d) to express finality or completeness, a use comparable to verbs in English which take a particle to emphasise completion e.g. eat up, finish off:

91. Aliitupia mikebe hii mbali

he-past-them-throw-for pref.-can pref.-demonstrative  
far

'He threw these cans far away'

- (e) with the interrogative particle nini or enclitic  
-ni, the prepositional for expresses "why?":

92. Waliliani?

you-pres-cry-for-what

'What are you crying for?'      'Why are you crying?'

Thus evidence from many languages of a relation between local and abstract cases supports a Localist interpretation of case relations. Given that Fillmore keeps these cases distinct, he is going to need some extra device in order to capture any such surface structure relations, thus complicating the grammar. As Anderson says (Anderson, 1971a): "In particular, the facilitation of the prediction of 'natural' syncretisms and shifts in representation is assumed to be evidence for a hypothesis". We have seen that Fillmore's cases are poorly motivated by Fillmore himself and by those who follow his lead, and that there are further problems with regards to intuitions, identities of case form and treatment by movement transformations and the failure to capture an interesting generalisation about the order of cases in the case hierarchy. Before looking further at the



Localist hypothesis, we shall now consider how cases are to be represented in deep structure.

### 2.3. Handling Cases

Faced with the question of how to handle cases, the first decision is whether to treat them as some element of structure in their own right or as somehow derivative. Adopting this latter view leads to a treatment in terms of predicates or of rules of insertion (Kilby, 1972, Dixon, 1972, Bailey, 1970). The former point of view leads to the further question of whether this element, case, is a feature (or a bundle of features, Nilsen, 1973) or a constituent of a tree representation. Whichever analysis is adopted the grammarian is faced with the further question of whether case is a "discrete, non-complex symbol" and if it is how can partial similarities be shown, (Huddleston, 1970).

#### 2.3.1. Case and Predicates

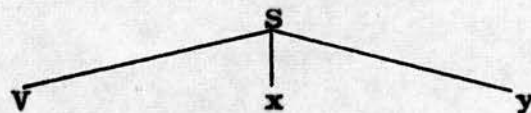
##### 2.3.1.1. Bailey

Bailey (Bailey, 1970) provides only a partially worked out grammar of causation and the relation between use and the instrumental case. He begins by asserting that Fillmore's theory of case is open to Chomsky's objections (Chomsky, 1965) that it confuses categorial and functional notions. The validity of this accusation is somewhat dubious, basically because Chomsky's discussion has nothing to do with underlying case relations but is concerned with the notions of subject and object, which Fillmore (Fillmore, 1969) has suggested are surface structure features. If Bailey can show that subject and object are deep structure

relations (on this question see Anderson, 1976) and if he can show that case relations are of the same type of entity as subject and object, then his point may have some validity, but until this is the case his criticism has no force.

Bailey characterises his aim as "to show that a more abstract view of case than Fillmore's 1968 theory can, in fact, relate and explain the phenomena in question", the phenomena being verbs like open and the use-instrument relation. However, the argument here is at fault: having supposedly shown that Fillmore's approach is untenable, Bailey assumes that because another approach CAN handle the data, then that new approach MUST be adopted. He fails to take into account any considerations of evaluation. Further the term "abstract" is also used in an ill-defined way for, as we shall see, case is treated essentially by transformational rules.

The grammar which Bailey proposes produces trees of the following form:



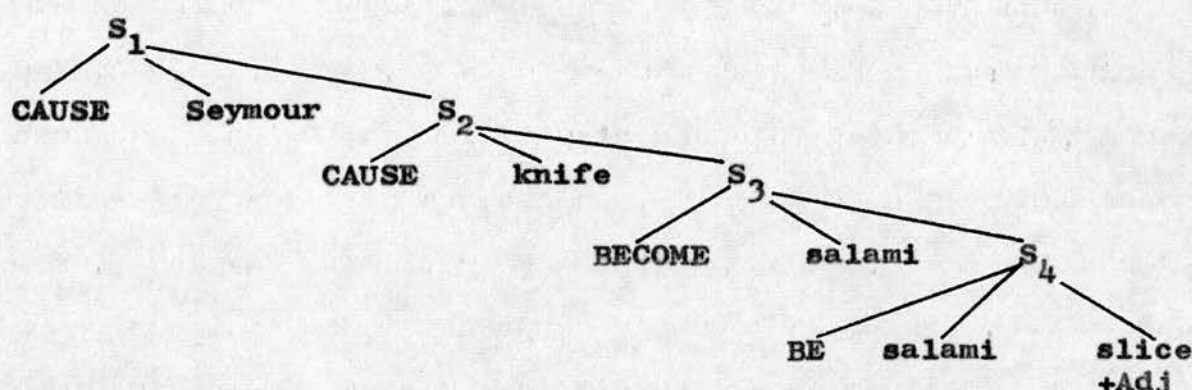
where V is the verb, x is marked as -affectum and y as +affectum, this latter also being able to dominate another S to account for embedding. Bailey does not give any detailed discussion of the features +affectum and -affectum, but clearly they belong with notions such as Agent and Patient, i.e. with case notions. Bailey tries to show that trees of this form plus appropriate transformations will account for Lakoff's observations on use and with-phrases

(Lakoff, 1968) "in a manner that case grammar cannot". Notice that he does not bother to show why or how case grammar cannot account for the data. The following structure is given as that underlying 93a and 93b

93a. Seymour sliced the salami with a knife

b. Seymour used a knife to slice the salami

94.



The transformations which he proposes are too powerful and unrestricted, being able to accomplish several things at once. Thus to derive 93a, a transformation deleted CAUSE of  $S_2$ , marks knife as +Inst and moves it to sentence final position. Agent and Instrument are both treated as if they are to be arrived at by interpretation of this structure, the Agent is the highest NP marked as -affectum, the Instrument is the next highest NP marked as -affectum. It is difficult to see how, using this approach, Bailey can handle the difference observed by Huddleston (Huddleston, 1970) between the intentional Agent and the non-intentional Agent, but given the unconstrained nature of his grammar there is nothing to prevent his handling this by positing some higher predication in the case of the intentional



Agent. Case-marking must also remain something which is completely arbitrary in this approach, so that the relations which we have discussed above will remain unaccounted for. Finally, the approach is semantically inadequate. Bailey assumes a relation between the predicate CAUSE and the surface element use which is unsupported, in that to obtain 93b CAUSE in  $S_1$  is lexicalised as use and the other predicates are lexicalised in the lexical item slice after a rule with the same effect as Predicate-Raising has applied (McCawley, 1968). Further there are many sentences which have the same structure as 94 except that the NP marked -affectum in the second predication is animate, and such sentences do not parallel 93a and 93b;

95a. Seymour <sup>had Melvin</sup>  
got Melvin to slice the salami

b. Seymour sliced the salami with Melvin

95a does not assert the same thing as 93b, namely that Seymour sliced the salami, and 95b does not have an instrumental with-phrase. Such facts could presumably be handled in the semantics, but Bailey does not justify such an approach.

#### 2.3.1.2. Kilby

Kilby (Kilby, 1972, 1973) gives a more fully worked out approach to the treatment of case in terms of predicates, his analysis going to the extreme of making no strong distinction between surface forms which appear as verbs and those which appear as case-markers, i.e. prepositions and inflections, both deriving from the same type of deep structure element, namely the predicate, (see Becker and Arms, 1969 for a similar view).

Rather than consider the grammar and analyses which Kilby proposes in terms of this identification of verbs and prepositions, we shall turn to the arguments which he brings forward to support this initial assumption. As a first negative criticism, notice that there is no argument to show that any other grammar cannot account for the case system of Russian which is his prime concern, nor that there is no other equally adequate means of accounting for the relationship between prepositions, cases and predicates.

The argument starts with the assertion that "the closer the verb approaches the status of an atomic predicate, the closer it is in meaning to a case", which appears to be a vague definition in the absence of a clear notion of "atomic predicate" and case and of a means of comparing and isolating the meanings of these entities. In clarification, Kilby observes that kill presupposes an agent, but an agent does not necessarily presuppose an act of killing, while the verb do presupposes an agent and an agent presupposes that something is done. This provides weak support for Kilby's hypothesis since kill also presupposes a patient and also, although not invariably, an instrument or manner of killing; likewise do presupposes a patient and possibly an instrument, while a patient or instrument presupposes that something is done but not an act of killing. Thus we are faced with the question of why the "atomic predicate" DO should be connected with an agent and not a patient or instrument. The answer to this is found in the statement that "the

three verbs which are generally recognised as pro-verbs, do, be and have bear an approximate resemblance to respectively erg (i.e. agent) nom and loc", these latter being the cases proposed by Anderson (Anderson, 1971a). Without quibbling over the vagueness of "approximate resemblance", a better way of stating this would be to say that the normal subjects of do, be and have are erg, nom and loc respectively. Thus Kilby's argument reduces to the statement that erg and DO are to be treated as the same underlying element because erg is the typical subject of the surface structure reflex of DO, namely do. This appears to leave patients and instruments in something of a limbo. In fact, there is no support here for Kilby's hypothesis which selects this treatment over one which simply says that erg is the one necessary case dependent on DO, nom is the obligatory case with BE and Loc is the obligatory case with HAVE and a further statement to the effect that obligatory cases become the surface subject.

The main force of Kilby's arguments comes from observations on prepositions, cases and verbs. Thus he cites Hjelmslev and Lyons (Hjelmslev, 1935, Lyons, 1968) as examples of the numerous scholars who refer "to the common linguistic functions of cases and prepositions, where by cases here he means case forms. Further he notes that prepositions and verbs have common linguistic functions, (Brøndal, 1948, Bally, 1932, Becker and Arms, 1969). He reformulates these observations as claims about deep structure: the first claim is that at the level of deep



structure the categories of case and preposition are identical, the second is that "prepositions are verbal in nature or vice versa." The first claim is generally accepted, while there is no evidence to refute the second claim. However, if there is little to refute this claim, this does not mean that it must be accepted. To accept it, we must know that any similarities between prepositions and verbs cannot be handled elsewhere in the grammar, that this is the only possible means of handling the relationship. In fact, it is more in keeping with the generally accepted status of prepositions as belonging to the category of *accidence*, or of minor parts of speech or of functors (see Lyons, 1968 for discussion of the parts of speech) to reject Kilby's claimed identity of prepositions and verbs. Thus while it seems acceptable to say that nouns and verbs are elements in deep structure, prepositions are case inflections, are surface forms which mark relations between members of the major lexical categories, noun and verb. Claiming that prepositions are verbal also breaks down this distinction between lexical and relational elements, since Kilby is also claiming that verbs are relational and he does not support this. Thus he must show two things, firstly that verbs are relational in the same way that prepositions are relational and secondly that there is some sense to the term "verbal" such that both verbs and prepositions are "verbal". In the absence of such demonstrations his proposals are not convincing.

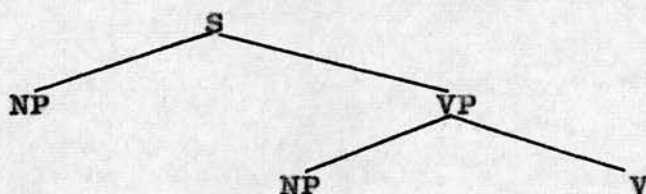
If his arguments do not strongly support his claims,

Kilby's hypothesis also has certain disadvantages in terms of explanatory adequacy and the form of the grammar. Thus any predication involves a relational element and two terms which it relates, so that the deep structure of any sentence involves a series of embedded predications. This involves very powerful restrictions on movement and case assignment is relegated to the transformational component, so that the grammar is open to the same criticisms made of Fillmore, namely that case syncretisms become accidents and not changes which the grammar actually predicts in a straightforward manner, as does Anderson's view of Localist Case Grammar.

#### 2.3.1.2. Dixon

Although we group Dixon's treatment of case in this section, this is really a matter of convenience, as his grammar is something of a hybrid. In his grammar of the Australian language Dyirbal (Dixon, 1972), he uses what we may call a "standard" phrase structure of the form:

96.



where NP dominated by S is "in O function" i.e. object and NP dominated by VP is in "A function", i.e. is agent. Thus the ergative case form which is attached to the NP in the A function depends on configurational relations. However, this is not the case for the instrumental and comitative cases, as both are derived from dummy verbs. This non-unitary treatment of case would be one good reason for

rejecting this form of grammar. One further problem concerns the fact that two dummy verbs are posited in the deep structure, yet there is a close relation between comitative and instrumental in general, (see our discussion of English prepositions above 2.2.3.) and in Dyirbal the verbal affixes for the two cases are identical.

### 2.3.2. Case and Features

#### 2.3.2.1. Nilsen

We have already referred to the work of Nilsen (Nilsen, 1973) when we considered the adequacy of the tests proposed so far for cases. From this study of such tests, he concluded that "morphological and syntactic tests are inappropriate for determining case membership" and from the further assumption that "case grammar has a language independent, semantically determined base" concludes that case assignment should be determined by semantic features. He fails to realise that this approach denies any significance at all to cases: thus they have no syntactic or morphological import, as shown by the tests, and they have no semantic import since all the information relevant to case assignment is already present in the semantic features, so that cases are completely redundant and contribute nothing to the grammar. Although Nilsen goes on to claim that this approach will allow for a "criterion that can be applied universally to all languages" he does not expand on this statement to show exactly what such a criterion might be.

The major problem faced in trying to evaluate Nilsen's proposals is that there are no concrete suggestions about



what form the grammar might take as there are no rules or structures and any sentence analysed merely has the nouns marked with the appropriate case, A,E,I, F etc. However, the very use of features must be questioned. The problem with features is that they are very powerful devices which can be used to encode any information and yet are in no way constrained by the theory so that there is some means of evaluating their use. As an example of the strange and counter-intuitive uses to which features have been put consider Postal's use of the feature +Doom (Postal, 1970) whose role is to carry information through a derivation until it is needed, (see also Lakoff, 1971, 1972 on arbitrary syntax). As they were first used in grammar (Chomsky, 1965), features were added to nouns and verbs as cumulative restrictions of the lexical item. However, this is not the way in which Nilsen uses them. He gives the following list of features: Intent, Cause, Controller, Controlled, Animate, Concrete, Count, Source, Time, Goal and Inalienability. Notice, however, that he omits any discussion of the last three features.

One of the features Cause and Controller is redundant for there is no case which is distinguished by a different value for these features, i.e. anything which is +Cause is also +Controller and anything -Cause is also -Controller. As a general list, we seem to be dealing with a mixed collection of features, but it is significant that Animate, Concrete and Count are features on nouns for Chomsky (Chomsky, 1965) while the other features could be correlated

with other elements of deep structure. For example, Intent could be viewed as a condition on whether the deep structure has an Agent; Cause would be a constraint saying that these cases can only occur in predications containing the predicate CAUSE; Controlled would be a constraint which says that such a case corresponds to the patient of some action.

When it comes to accounting for case syncretisms, we are in a difficult position since Nilsen does not make it clear how these bundles of features relate to surface structure. We might suppose that a particular feature or sub-bundle of features would require a certain surface realisation. Thus the feature Goal could be correlated with the preposition to and in this way we could account for to as the marker of the concrete Goal case and the abstract Experiencer case using Nilsen's system. Likewise we might predict that the preposition from or out of is correlated with the feature Source and thus in keeping with the localist hypothesis account for their marking causation as already shown (above P.47). However, such a prediction is not corroborated since neither Agent nor Force have the feature +Source, although Nilsen cites Lambert (Lambert, 1969) who equates the features Source, Cause and Ablative. Symptomatic of the whole study is the fact that Nilsen provides no argument against Lambert's position.

Without a more carefully argued presentation of the analysis of case as in some way related with a bundle of features and some concrete suggestions as to how such a hypothesis might be presented in a grammar, Nilsen's ideas

cannot claim our attention as a way of handling cases.

#### 2.3.2.2. Starosta

Starosta (Starosta, 1972) characterises his grammar as "lexicase", an approach in which the concept of lexical redundancy rule plays an important role, with these rules replacing the phrase structure rules and transformations of other models. His main concern is the relation between surface case forms and case relations in the deep structure and he does not make clear the actual means of functioning of the redundancy rules and how he conceives the full grammar. In Fillmore (Fillmore, 1969) features are attached to the noun, adjective and determiner in accordance with the case-node which directly dominates them. Starosta observes that if features can be assigned directly to lexical items, then we can do away with the dominating case-node, and suggests that one way of doing this would be to assign these features by lexical redundancy rules. Thus he sees case, like gender and case, as a feature on a noun and asserts that "if it is insisted that cases must be represented in the grammar as nodes dominating nominal constituents, then the same arguments could be used to claim that gender and number must also be so represented." (P. 91 ). This is an interesting claim which should be supported if we are to accept Starosta's conclusions about case.

In fact, there seems to be no argument at all which supports Starosta's position, but several which weaken it. Fillmore (Fillmore, 1971) has attacked this hypothesis on two grounds: firstly, since case is a relation between a



noun and a verb, case as a feature on a noun does not capture the essentially relational nature of case; secondly, Fillmore claims that Starosta's analysis forces all instances of embedding to be treated as instances of adjunction to a noun. He concedes that this may be workable in the cases such as (The event of) John's screaming caused the accident and (The fact) that John loves Mary amuses Bill but suggests that there will be problems for such sentences as I suspect that John loves Mary. Starosta (Starosta, 1971) claims that these objections are not serious and proceeds to discount them with some unsupported assertions. Thus "surface case at least is formally a feature of nouns at some point in anyone's analysis, since it must be assumed to be present to account for the inflections of case-inflected nouns.." (P. 86). Moreover, treating case as a feature of noun within nominal constituents "avoids the doubtful practice (Fillmore, 1971a, p. 35) of treating case as a constituent label on a par with NP, VP etc.". This last point is a misrepresentation of Fillmore, as he himself discounts such an analysis of case (Fillmore, 1971a), while the first point carries no weight at all, as Starosta does not demonstrate that it is the only one possible.

Starosta tries to avoid the second objection by saying that the case feature of embedded sentences is carried by the complementiser so that no dummy head noun is required. However, if case is a feature on nouns, this must mean that complementisers themselves are nouns in Starosta's grammar,

although most linguists would treat them as prepositional in nature. In general Starosta seems to emphasise case as an inflectional category and under-plays the cases where case is a pre- or post-positional element in the language. If this latter situation is taken into account it is difficult to continue with the treatment of case as a feature on a noun which we then find to be realised as a separate constituent.

There are other arguments against cases as a feature like number and gender which do not depend so much on aspects of the grammar. Notice that Starosta is claiming that all these function alike, but if so how are we to explain the fact that case-marking can be done via separable elements like pre- and post-positions or inflectional elements or a combination of both while number and gender do not seem to be signalled in any language except via agglutinating or inflectional elements? Similarly, how are we to explain the fact that languages like Latin where final syllables became weak and were ultimately lost, gender distinctions became blurred, number was marked by an inflectional element while case-marking was retained as an important part of the grammar and was realised by prepositions or position within the sentence? Another difference is that a noun is invariably of one gender if the language marks for gender, such that we do not find a noun in one gender in one sentence and in another in the next, while the case of a noun is variable in just this way. Case belongs with the noun only insofar as it appears in relation to the verb,

while gender is an inherent property of a noun.

The attempt to account for syncretisms is confused and confusing, basically because Starosta seems to change his mind part way through the paper. Initially he argues for a series of deep case features amongst which he includes Agent, Dative, Locative, Source, Instrument, Object, Result, Goal and a series of surface forms such as Ergative, Dative, Genitive, Instrumental, Nominative and Accusative (these last two he also calls Subject and Object). The deep cases will be neutralised in terms of the surface cases. Thus in Latin, the deep cases Dative, Goal and Object may be neutralised in the surface structure by the Accusative. In fact, this explains nothing, it merely categorises and leaves the conditioning factor unmentioned. It does not answer the basic question, why are these three cases neutralised by the Accusative and no others? The second approach seems to conflict with his initial concept of case one feature on a noun. We are told that after reading the lecture on which the paper was based, Fillmore suggested that relations between cases could be captured by decomposing them into components such that Agent and Instrument share a feature of Causation, while Object and Dative share a Patient feature. Starosta goes on to say that "there seems to be no way of splitting cases into components if we treat them as nodes in deep structure, whereas if we think of them as features of lexical items, there is no problem at all; one simply uses shared lexical features to represent the



shared components." (P.111) The argument is not valid since there is a means of splitting cases into components and still treating them as nodes, just as Chomsky suggests (Chomsky, 1968) that syntactic nodes are to be represented as matrices of distinctive features. This proposal of Starosta's seems to be leading towards a situation similar to that proposed by Nilsen (Nilsen 1973 see 2.3.2.1. above) where each case is a bundle of features, although again how this proposal is to be formalised is left unclear; either the case is somehow interpreted on the basis of such a bundle of features or the case feature itself may be further analysed as a bundle of features. However, Starosta's point depends on the prior assumption that the deep cases which he uses are, in fact, the correct ones, and he does not consider the possibility that cases like Agent, Instrument and Experiencer are not primitives. This is the hypothesis which we shall explore in this study.

### 2.3.3. Case and Dependency

We have so far considered case as a predicate and as a feature and have discounted both as unable to capture the essentially relational character of case and to provide for an explanation of case relationships and syncretisms. We have also suggested that the only way in which we can account for such relations and also avoid the problems of definition and characterisation of cases considered in the first section is to do a further analysis of cases proposed by Fillmore and those who follow his ideas. Apparently

the only form of presentation left is that of viewing cases as nodes and following Anderson (Anderson, 1971, 1976) Fillmore, (Fillmore, 1971) and Robinson (Robinson, 1970) as nodes connecting verbs and nouns in a dependency model.

There are several advantages with such an approach, besides the capturing of the relational character of case and the characterisation of the notion "head". Thus a dependency tree will contain only nouns and verbs connected via case nodes, all of which may appear as full lexical items. Such a treatment will be in keeping with the view of prepositions as functional elements as opposed to the categorial status of the noun and verb as the major parts of speech. Moreover, the form of such a tree will be simpler than a corresponding phrase structure tree which contains many non-terminal elements, that is, there is a much closer relationship, if not perfect identity, between those elements in surface structure and those elements in deep structure.

The deeper analysis of Fillmorean cases, we suggest, will lead to the Localist Hypothesis. Most of the criticisms made of Fillmore above bear on the relation between local and abstract cases. Notice that allows us to give a closer characterisation of the notion of case. Fillmore says that it is a relation between noun phrase and verb, but does not specify what sort of relation. The Localist Hypothesis claims that the relation is a spatial one. In the concluding section to this chapter we shall look more closely at this hypothesis.

## 2.4. Localist Case Grammar

### 2.4.1. Development

Anyone concerned with the history of the treatment of case systems must use Hjelmslev's "La Categorie des Cas" as the basic text (Hjelmslev, 1935). However, two things must be borne in mind: firstly that Hjelmslev is concerned solely with case systems and does not bring out the full implications of the hypothesis for other areas of the grammar and secondly for Hjelmslev and the earlier Localists cases were solely features of surface structure, there being no concept of deep structure to which they could refer, so that frequently features which we might wish to treat in terms of such a distinction are viewed from a diachronic point of view. In what follows we shall survey Localism in terms of those scholars whom Hjelmslev omits from his study and in terms of those areas of the grammar which Localism bears on but which Hjelmslev does not consider.

The first, as far as historians of linguistics know, to propose an explicitly Localist account of case systems was a Byzantine monk, Maximum Planudes writing in the 13th century. Robins (Robins, 1974) queries Hjelmslev's statement that Localism had its roots in antiquity (Hjelmslev, 1935). Hjelmslev based his assertion on Steinthal (Steinthal, 1863), but Robins suggests that the text on which this depends is a collection of "unrelated grammatical excerpts", so that the fact that an excerpt of Maximum Planudes work is included gives the impression that Localism was not original to him. In Planudes work, the theory



arises out of an enquiry into the nature of question words in Greek corresponding to English "whence, whither, where". Maximum Planudes points out that these three forms can be correlated with the three Greek oblique cases genitive, accusative and dative respectively. He further treats the non-spatial meanings of these cases as derived by metaphoric transfer from one of the basic local distinctions. The nominative case differed from the oblique cases, in that it was not dependent on the verb while the latter were and as such formed the elements of the verb phrase or predicate. Hjelmslev characterises as the basic element the abstract notion of "direction", which can be used to characterise both local and grammatical cases in terms of source, goal and location.

With the fading of the Byzantine Renaissance, study within an explicitly Localist framework came to an end until the late 18th and early 19th century when among others Bopp and his pupil F. Wüllner re-discovered the idea, at least according to Hjelmslev. However, he does not make it clear whether this renewal of interest was really due to the re-discovery of the works of the Byzantine scholars, whether Localist ideas had never completely fallen out of currency or whether Bopp arrived at these ideas from his own studies without external prompting.

In fact, a study of the literature shows that there has always been an under-current of localistic ideas within treatments of case and prepositions. Both Greek and Roman grammarians recognised that certain of the cases could have

local meanings; for instance, that the Greek genitive and Latin ablative cases might express source or origin. A more closely localist treatment of the French prepositions is given by Condillac (in Leroy, 1947 Voà. 1). There he claims (P. 479) that the first use of prepositions was to mark relations between objects: "mais parce que les idées abstraites, exprimées par des noms, prennent, dans notre imagination, presque autant de réalité que les choses ont au dehors, elles peuvent être considérées comme ayant entr'elles des rapports à peu près semblables à ceux qui sont entre les objets sensibles." Thus the preposition à marks both location and goal: Condillac relates its use as a temporal, circumstantial and manner marker to the former use and its dative and purpose functions to the latter.

Hjelmslev claims for Bernhardi the honour of being the first to recognise a relation between cases and prepositions (Hjelmslev, op. cit. p. 24). However, Bernhardi's work "Anfangsgrunde der Sprachwissenschaft" was published in 1805, yet, if we look no further than Harris' "Hermes" published in 1751 we find the following: "their force and power (i.e. cases) is exprest by two Methods, either by Situation, or by Prepositions." However, Harris does not follow through this identity consistently. Having treated prepositions, he goes on to define the Nominative and Accusative with respect to the type of verb, while the Genitive and Dative cases are given Localistic definitions in terms of source and goal respectively. Of the prepositions, Harris asserts that their original use was to

denote "Relations of Place." "They by degrees extended themselves to Subjects incorporeal, and came to denote Relations, as well intellectual, as local." (P. 268). However, there is another important point in Harris' book, namely on p. 128 he cites Gaza, and it seems likely that he is referring to the Byzantine Theodorus Gaza whom Hjelmslev identifies as writing in the Localist framework some 100 years after Maximum Planudes. Thus it seems that some form of Localism was known from Byzantine texts in the 18th century.

It seems unlikely that Hjelmslev would have admitted Condillac and Harris to the ranks of Localists, since they clearly give priority to the concrete local relations expressed by prepositions, while Hjelmslev makes it clear that in his conception of true Localism no such priority is possible. In fact he characterises such an idea as an "hypothèse phantastique". In fact, there seems to be no good reason for rejecting this priority of local meaning for case relations.

Thus Bopp's hypothesis was not necessarily something new to 19th century studies. Localistic ideas can be found throughout the grammatical traditions going back to ancient Greece. Localist ideas are also found in the works of two scholars of the 18th century at least whom Hjelmslev does not cite, and one of those scholars himself cites as earlier Localist. However, it was the middle of the 19th century that saw the true Localist flowering and the fuller exploration of the claims of the hypothesis. We shall now study three



of these scholars.

#### 2.4.1.1. Laurie

Like the works cited by Hjelmslev (Hjelmslev, op. cit.) (Bopp, 1833, Wüllner, 1827, Hartung, 1831 and Pott, 1836) Laurie's "On the Fundamental Doctrine of Latin Syntax" is concerned in part with the Latin case system. However, instead of treating the ablative, as does Wüllner, in terms of some highly complex but essentially unitary phenomenon, Laurie makes a clear distinction between three "case ideas", namely locative, instrumental and separative and one "case-form" which happens to be termed in the grammars the ablative. This is possibly the earliest statement and recognition of the difference between case relations or Starosta's deep cases and case forms or Starosta's surface cases (Starosta, 1972 see 2.3.2.2. above).

In the preface, Laurie characterises his treatise as an attempt "to unfold the psychical conditions under which the Latin form of speech arose." Thus he appears to be claiming some sort of perceptual or cognitive reality underlying the expression of concrete and abstract relations by the same spatial terms. Laurie seeks to account for this by referring to the basis of language which is to be found in "external nature" and furthermore "words, whether used to denote an existence, an affection, or a relation, and however abstract their present use, originally denoted (it may safely be assumed) only external phenomena and external relations." (p. 8). On the basis of this, he concludes that we may look for the primary concept behind

each case in the spatial relations "subsisting between objects in space". However, the one case which is not susceptible to this treatment apparently is the nominative which is used "when the existence of a thing is regarded absolutely" (p. 7).

The primary idea of the accusative is "extension" which may be of time or space. Once this extension is between two objects such that there is movement from one to the other, the goal is expressed by the accusative case. This relation extends to the agent-patient relation, where the accusative marks the goal of the action, but the significant point is that for Laurie the accusative does not depend on the verb directly but marks the relation between subject and object. Thus "the subject and object are put in the accusative relation", by marking the object with the accusative case-form, when the transitive verb signifies an act of sensation which makes the object "entirely sub-jacent to the subject" (p. 11).

While the accusative marks motion to a goal and domination of the object by the subject, the dative marks "motion towards an object not embraced" and the abstract notion of "reference or respectivity". In these terms Laurie can account for the dative with verbs of emotion as in Irascor tibi which he translates as "I am angry and my anger has reference to thee". Compare this with English I am angry with you, where with originally had the meaning of "against or toward". As the expression of motion towards, the dative can also express purpose or "for the

sake of". Compare English for discussed above and Swahili prepositional extension 2.2.3.2.

As we have already mentioned, Laurie divides the ablative case into three case relations, but admits that there may be something common to them all which would account for the syncretism, without making any definite suggestions as to what this might be. The locative case relation is used to mark "place where" and "time when" as in the ablative absolute construction:

97. Regibus ejectis, consules creari coepti sunt

'When the kings had been ejected, they began to create consuls'

The ablative-proper or "separative" case denotes separation from, and from this basic spatial notion develop the ablative of source:

98. Scipio nobili genere natus est

Scipio noble-abl. sort-abl. born is

'Scipio was born of noble stock'

and the ablative of originating power and hence the ablative of agency:

99. Caesar a civibus Romanis occisus est

Caesar from citizens-abl Roman-abl murdered is

'Caesar was murdered by Roman citizens'

Latin distinguishes the agent, with a preposition a or ab "from", from the cause, with no preposition:

100. Sapiens est amicis parvis contentus

Wise is friend-abl-pl. few-abl. content

'A wise man is content with few friends'  
(i.e. are the source of content)



Finally the instrumental case, considered as the expression of the "position medial", expresses the means or way. From this derive the comitative uses of the ablative case form as well as its use in comparative expressions.

The Latin genitive indicates the "co-existent union of subject and object" and the clearest example of this union, Laurie claims, which is not identity or concomitance is to be found in the possessive genitive. This case is given the most unsatisfactory treatment in that it seems partly to overlap with the ablative-proper. Notice that Greek had no ablative, and that the Latin ablative-proper coincides largely in use with the Greek genitive. Laurie distinguishes between the objective possession as in liber Pauli, "Paul's book" and "derivative possession", which is used of cases where "the subject seems to flow from the object or dependent word as a consequence or result" (compare the ablative of originating power above) as in fiducia suarum virium "confident of their strength/because of their strength". A third type of possession is the partitive as in magna pars militum "a large part of the soldiers". Notice that this also has a paraphrase with ex militibus, literally "from the soldiers" with an ablative.

Thus we have seen one attempt to give the Latin case system a Localist interpretation, although the ablative and genitive prove difficult. However, we have suggested that the Localist Hypothesis does not bear solely on the case systems of the language, but may find further support in other areas of the grammar. The studies of Key and Garnett

provide examples of this.

#### 2.4.1.2. Garnett

Garnett shows himself to be a disciple of Bopp in that he only admits two simple elements, abstract nouns and pronouns, the latter originally denoting the relations of place, and from these other parts of speech are derived. Further he believes that there is a "strict analogy between the operations of language and those of the mind" (Garnett, 1859 p. 87). He makes it clear, however, that this analysis is only "fully applicable to language in its original and genuine form" (Garnett, op. cit. p. 95).

Garnett's analysis of the verb is broadly in keeping with the general notions of his time, in that he treats the finite verb as "a noun plus some other element". However, he differs in his suggestions as to what the "other element" could be. Thus, for example, among other scholars Condillac (op. cit. p. 452) and Harris treat the "other element" as a form of the copula. Condillac equates je parle with je suis parlant, while Harris (Harris, op. cit. p. 184) says "Thus take away the Assertion from the Verb Writeth, and there remains the Participle, Writing", where by assertion he means the copula. In contrast to this point of view, Garnett suggests that a finite verb should be seen as a noun plus a personal pronoun in an oblique case (i.e. not a nominative) "virtually including in it a preposition", and it is this preposition which constitutes the copula between the subject (the pronoun) and the attribute (the noun). To support this view he quotes

extensively from languages which show some formal identity between expressions of possession and the person markings in verbal forms.

Two of his articles are attempts to support Bopp's view of language in its details rather than an exposition of the broad outlines. Bopp originally proposed that the augment form in Greek and Sanskrit was to be identified with the negative prefix a(n)-, so that the Greek augment form of the verb "to say" would best be translated as "I say no longer" i.e. "I said". Garnett sets out to find evidence for the weaker form of this claim, namely that the augment is some demonstrative particle expressing remote time or place. This claim is similar to that made by Anderson (Anderson, 1971a) for the relation between ablative and negation and for the relation between ablative and expressions of the perfect made in a later work (Anderson, 1973b). In another article Garnett brings evidence from several, mainly Semitic, languages that there is some identity between expressions of the genitive case and relative pronouns. Again modern work suggests a similar connection: compare Matisoff (Matisoff, 1972) where several languages are cited which show an identity between nominalisations, relative clauses and genitives.

#### 2.4.1.3.

Key (Key, 1874) differs from Garnett in that he does not accept Bopp's theory in its entirety, in particular rejecting the priority of the abstract noun. He suggests (Key, op. cit. p. 13) that "the first development of language



was the formation of verbs", where by verbs he means expressions of physical actions as opposed to expressions of feeling or emotion, which, in "the older language", are impersonal, reflexive or passive verbs or in the perfect tense. Such a view of the original nature of verbs, he claims, is in keeping with his treatment of the nominative as expressing the agent. He argues that this view of the nominative is not in conflict with its use with passives, since passives are derived from reflexive forms where the nominative had originally its full agentive meaning. But this does not explain why the nominative is used in sentences containing a copula and adjective as in Johannus est fortis "John is strong". Key here seems to be trying to capture the generalisation that the subject is typically the agent, and certainly there is morphological evidence for some relationship between the form of the nominative and the genitive case, which latter has agentive and causative meaning in Latin and Greek, (see Jespersen, 1924, Kurylowicz, 1964).

Key proposes an analysis of cases which is similar to that of Laurie, but the main interest for our present concerns lies in the extension of the analysis of verbal tense and aspect, so that the whole verbal system is reduced to the underlying spatial expressions. In fact, his view of the present continuous seems to argue against his initial view of verbs (Key, op. cit. p. 145). Thus he claims that I am writing derives from a locative expression where writing is an abstract substantive. Other tenses he tries

to analyse in terms of a compound formed from an abstract noun, a preposition and a form of the copula. Thus all perfect tenses in Latin e.g. scripsi, scripsero, scripseram "I have written, shall have written, had written" contain the root scrip- the suffix -s which is to be related to the genitive or "from" case and a form of the verb "to be".

Key's analysis is similar to that given by Darrigol (Darrigol, 1829) for Basque where the morphology is clearer, (for a fuller discussion of Darrigol and the Localist Hypothesis with respect to tense and aspect see Anderson, 1973b).

#### 2.4.2. Decline

It is difficult to actually summarise, as opposed to illustrate, the claims of Localist theory without making it sound simplistic and trivial and somewhat divorced from the facts of language. However, Hjelmslev's characterisation of it as dependent on the notion of "direction" is possibly most accurate (Hjelmslev, op. cit.) However, we have seen that this notion is not limited solely to the analysis of case systems: the notions of source, goal and location which derive from it can also be applied to tense and aspect.

Having no concept of deep structure in terms of which to account for the relations which their theory recognised, the Localists of the 19th century were obliged to talk in terms of the development of language. This naturally made their claims open to testing on the basis of the reconstructed forms posited for Indo-European and the lack of simple immediate confirmation required by the theorists of the 19th

century led to the decline of the theory. Two other factors contributed to this situation. Firstly, as Hjelmslev points out, (Hjelmslev, op. cit.) in a Localist view of case, the nominative is not so fully integrated into the system as are the more obviously local cases. Moreover, according to Hjelmslev (Hjelmslev, op. cit. p. 45) there was a reaction against viewing all cases as being reducible to "l'espace concrète ou matérielle". This reaction took one of two forms: either one tried to remove all localist concepts from the grammar or one split the cases into the grammatical, i.e. the nominative, accusative and genitive and the local case(s). However, these cannot solve any of the problems of Localism, but do raise further problems of their own as Hjelmslev shows (Hjelmslev, op. cit. p. 45-61). Thus, for example, Michelsen (Michelsen, 1843) bases his analysis on the concept of causality without realising that this concept is itself the same as the abstract "direction" in the Localist theory. Likewise the split into concrete and grammatical cases raises the problem of syncretism, in that the accusative in Latin, which is usually treated as a grammatical case, has a local use to mark the goal in Paulus in oppidum venit "Paul came into town", while the dative and ablative, which are local cases, have grammatical uses when they express purpose or benefactive and agentive respectively.

Hjelmslev sums up his survey of Localism in the 19th century thus: "En conclusion la théorie localiste... est la seule théorie des case établie jusqu'ici qui mérite une



considération sérieuse." However, in terms of a theory which recognises a distinction between deep structure and surface structure and a corresponding distinction between Case Relations in the former and Case Forms in the latter we can recognise at least two forms of the Localist Hypothesis. The weaker form would be a claim about Case Forms: having recognised the Case Relations Agent, Patient, Instrument, Source, Goal and Path the claim would be that Agent and Source, Patient and Goal and Instrument and Path each have the same Case Form or related Case Forms. The stronger version of the Localist Hypothesis places this "sameness" or relation at the deep structure level, so that it only recognises the Case Relations of Source Goal and Path. Anderson's approach is a form of this latter claim (Anderson, 1971, 1976) although the actual cases which he recognises are different than those listed above, Abs, Erg, Abl and Loc. The point is that we have a general principle which restricts the set of cases, for Hjelmslev and Anderson this being the general principle of "direction" (Hjelmslev, op. cit. Anderson, 1976). In the rest of this study we shall consider one form of the Localist Hypothesis in its application to an area of English syntax.

## CHAPTER 3

## Preliminaries to Direct and Indirect Causation

As already mentioned in Chapter 1, the concepts of direct and indirect causation are frequently used in the literature, but there is little explicit comment on their exact meaning or usefulness. In particular there is no discussion of whether they refer to syntactic or semantic properties or whether they are used as a cover term for some one property of the sentence or some bundle of related properties. One way in which to approach the problem is to consider each of the four elements which can occur in a causative sentence, namely the cause itself, the nature of the verbs which we perceive as causative, the nature of the patient or object affected and finally the properties of those things or events which are instrumental in the action.

## 3.1 Agents and Forces

In Chapter 2 above we discussed briefly Huddleston's notions of Agent and Force and his criticism of Fillmore's Instrument case (Huddleston, 1970, Fillmore, 1968 see 2.2.1. above). We shall now further this study of the two cases with regard to how they inter-react with expressions of direct and indirect causation. Particular attention will be paid to the types of noun and construction which may be characterised as an Agent or a Force.

## 3.1.1. Lee

Some initial support for an Agent-Force distinction comes from the tests for agency proposed by Lee (Lee, 1971a).

While we understand the subjects of both 1 and 2 as causally involved in the action, only the subject of 1 fulfills the conditions for agency.

1. John killed Bill

2. Hunger killed Bill

Lee gives the following as tests for the presence of an agent in the sentence:

(a) the sentence is the object complement of the verb command or the infinitival complement of persuade:

3. Bill commanded John to kill the enemy

4. \*Bill commanded hunger to kill the enemy

(b) the sentence is the object complement of causative have:

5. John was having Bill kill the enemy

6. \*John was having hunger kill the enemy

(c) the sentence contains an adverb like enthusiastically, cleverly etc.

7. John cleverly killed the enemy

8. \*Hunger cleverly killed the enemy

(d) in order to.. can be added to the sentence. This point generalises to the presence of benefactives like for Mary

9. John killed the enemy in order to please Mary  
for Mary

10. \*Hunger killed the enemy in order to please Mary  
for Mary

Such cases are not, on their own, of great significance since they can all be subsumed under the generalisation that these contexts require animate nouns, so that we would not



be dealing with an Agent-Force distinction. However, there are cases which do not seem to be open to such a simple generalisation.

### 3.1.2. On certain prepositions

We noted above (2.2.3.1.) that the prepositions which mark the Source or Ablative case can be used in certain restricted environments to mark the Force case in English.

11. John is dying from hunger

12. The book suffers from an abundance of typographical errors

13. John suffers from high blood pressure

14. John acted out of fear

With certain verbs like tremble, shake, stutter the preposition may also be with:

15. John trembled <sup>with</sup>  
out of fear

However, there do seem to be restrictions on what noun can appear after the preposition:

16. \*John is dying from Bill

17. \*John acted out of Bill

18. \*John trembled with Bill

18 is acceptable if Bill is given a non-causal reading, i.e. is treated as a Comitative. Notice that a restriction here in terms of animacy is not going to be so easy to state.

Firstly, we do find animate nouns:

19. John suffers from an over-bearing wife

If there is an animacy restriction, it cannot be expressed in terms of the preposition, since we find

20. John received the book from Bill

Similarly the restriction is not between the verb and the animate noun simply, since we find that for can substitute for the prepositions in 16-18 to produce acceptable sentences. This suggests that the ungrammaticality lies in the relation expressed by the preposition, that is it is Forces from which people die and which lead people to act or tremble and in these sentences we cannot interpret the animate nouns as referring to Forces. Thus 16 becomes acceptable if we substitute something like Bill's carelessness

21. John is dying of Bill's carelessness

Consider, for the moment, the prepositions which are possible in these constructions. Firstly we find prepositions of Source such as out of, from, of (see 2.2.3.1., 2.2.3.2. above) and secondly we find prepositions of Location with, by, through (see 2.2.3.1., 2.2.3.2. above), yet they can all mark a causal relation between either an event or an object and a further event. One further point which needs to be mentioned is that in the following forms of the sentences under discussion, for marks the benefactive case and so is ungrammatical when the following noun cannot be understood to refer to some entity benefiting from the action, except in the case of suffer where it is understood causally.

22. John is dying for Bill  
\*Bill's carelessness

23. John acted for Bill  
\*Bill's carelessness

24. John suffered for Bill  
Bill's carelessness

At this point it is necessary to digress in order to consider the difference between the animate noun as Force and a nominalisation containing that animate noun as Force, as this distinction is frequently needed in a discussion of causation. The following sentences, cited by Vendler (Vendler, 1967: 140) contain examples of what Vendler calls "suppressed nominals":

28. John surprised me

29. John caused the trouble

Of these sentences Vendler says that "we sense an invitation to complete the sentence: he surprised me or caused the trouble by doing something" (Vendler, op. cit.: 140). That is in both cases, it is rather some action of John's which is the cause of surprise or trouble. A similar situation is found in the following:

30. The abominable snowman is a fact

where "the existence of that monster is a fact" (Vendler, op. cit.: 140). Lee (Lee, 1971a) makes a similar point when he characterises the difference between the two following sentences in terms of their relative completeness:

31. The huge boulder prevented our walking along the path

32. John ate the soup

Thus 32 cannot be completed by a by-clause, that is one does not eat by doing something other than eating, but 31 can be completed by a by-clause, e.g. by blocking our way. We return to this point below (see 3.2.).

Vendler (Vendler, op. cit.) also introduces the notion



of "disguised nominal", which appears to be similar to that of "suppressed nominal". These nouns can be described as being "not verb derivatives, yet behave like nominalised verbs; that is, they can enter container contexts without suggesting suppressed nominals." As examples of such nominals, we find fire, blizzards, wind, rain, which unlike table, crystal, cow etc. "can occur, begin, end, can be sudden or prolonged, can be watched or observed - they are, in a word, events and not objects" (Vendler, op. cit.: 141). Note that such nouns also correspond to what Fillmore (Fillmore, 1968, 1971) calls Instruments and what Huddleston (Huddleston, 1970) calls Forces.

One further point about Agents and Forces is that they can be separated in terms of the notion of volition, as suggested by Huddleston (Huddleston, op. cit.) Thus 33 is ambiguous

33. John broke one of the glasses  
in terms of whether John did it deliberately or not.  
Huddleston proposes that this can be handled in terms of whether John is an underlying Agent or Force.

Finally our use of the terms "agent" and "force" in what follows is to be clarified. These terms are to be viewed as classificatory words, having no status in the grammar as such. As already suggested (see Chapter 2), according to Localist theory, all causes are Ablatives at some point in the underlying structure, and "agent" and "force" are convenient labels under which to collect data about causes. In what follows we shall return to further

evidence which might support an Agent-Force distinction in the grammar, that is two types of Ablative, or different structures dependent on this case.

### 3.1.3. On get

The grammar of the verb get is complex (see Lakoff R, 1971, Kimball, 1973 among others) and we shall present here only those aspects which are of immediate concern to the Agent-Force distinction. Consider the following:

34. John <sup>was</sup>  
got killed

35. John <sup>\*was</sup>  
got himself killed

In 34, get functions like a passive marker, yet the same could not be said of 35 where its function seems more closely related to its causative use as in

36. Although she was reluctant, John got Mary to read a paper at the conference

Thus got is not a simple passive form, since it is acceptable without stress on himself, while the sentence with was needs this stress for it to be acceptable.

37. The mad scientist mis-timed the explosion and was HIMSELF killed

The situation described by the acceptable form of 35 is one involving some external agent who actually does the killing, while John's role is to put himself into the situation where the external agent can carry out this act of killing. This situation could not aptly be described by:

38. John killed himself

This becomes clearer when we consider the following sentences:

39. John got himself killed by wandering around George Square late at night

40. John got himself killed by sticking his head above the wall so that the enemy could locate his position

41. \*John got himself killed by over-working

42. John killed himself by over-working

Notice firstly that sentences with get are more readily interpreted as non-volitional and easily take some added expression of the subject's foolishness or stupidity or carelessness, yet at the same time their acceptability is not harmed by the addition of some adverbial which presupposes volition. Contrasting with this the simple verb with a reflexive is more readily interpreted as volitional, although again acceptability is not impaired by an adverb which negates this volition, i.e. accidentally. Again an expression of the subject's stupidity or carelessness differs as to what it modifies: with the get-sentence it modifies the action which led to the killing, while with the reflexive and simple verb it modifies the suicide.

The distinction relevant to the above sentences seems again to be in terms of the Agent-Force distinction. As already noted, get presupposes some external agent or cause, that is, in 39 and 40, the actual performer of the act of killing is an animate being, a mugger or enemy soldier. In 42 John is killed by over-working, an event or action. Linked to this also is the difference in preferred interpretation with respect to volition. Further the get-sentence typically expresses indirect causation, and this



seems to be linked to the fact that there is an external agent, either mentioned or presupposed, and further that the subject of the sentence does not willingly operate on the external agent. (The situation bears comparison with Lyons' observations on the Indo-European middle voice (Lyons, 1968) Lakoff, R. on get-passives (Lakoff, R. 1971) and Babcock on the Spanish reflexive (Babcock, 1970). Further discussion of the relation between the middle voice and passives and reflexivisation is to be found in Anderson (Anderson, 1972).)

#### 3.1.4. On fearing

Verbs of fear provide more support for the Agent-Force distinction, besides giving evidence of the Source preposition of used as a marker of cause, but not of the Agent (see 3.1.2. above). However, in order to be able to consider such verbs properly, we need, firstly, to distinguish between expressions of state and of process.

43a. Our chihuahua was afraid of alsatians

b. Our chihuahua had a fear of alsatians

c. Our chihuahua lived in (a state of) fear of alsatians

d. Our chihuahua was frightened of alsatians

All the sentences of 43 assert some property or state of our chihuahua, and as expressions of inherent state cannot occur in the progressive nor with a temporal expression which locates the state at a point in time as opposed to some period of time.

44. Our chihuahua was being afraid of alsatians

45. ?On Monday our chihuahua was afraid of alsatians

46. Our chihuahua was afraid of alsatians on Monday,  
but something must have happened to him, as he  
isn't any longer

44 only has a good reading if we assume that the dog is pretending to be afraid of alsatians. 45 is odd because it asserts some property at a particular day, while 46 makes the situation clearer in that we assume that the dog was afraid of alsatians up to and including that particular day but is not any longer.

The verb frighten is the only one which can appear in the progressive and in process sentences. Thus if we use by instead of of in 43d, we can use the progressive form of the verb:

47. Our chihuahua was being frightened by alsatians  
In this case we must interpret alsatians as referring to some identifiable group of alsatians. Compare:

48. Our chihuahua was frightened of any alsatian

49. \*Our chihuahua was being frightened by any alsatian  
The specificity of the cause of fear is also relevant to the active form of the verb, so that in 48 and 49 the difference cannot rest solely in the form of the verb:

50. Any alsatian frightened our chihuahua

51. \*Any alsatian was frightening our chihuahua

One further property of the sentences is that if we expand the cause phrase as the size of alsatians, 43a-d become unacceptable. The important point seems to be that, while it is reasonable to assert that an alsatian, as an entity capable of action, is frightening, it is odd to single out

some property such as size, incapable of action in itself, as the cause of fear. Notice that with by such a sentence becomes more acceptable:

52. Our chihuahua was frightened by the (very) size of alsatians

To summarise, the features which distinguish states from processes are (a) the occurrence of the preposition of (b) the non-occurrence of the progressive aspect (c) the specificity of the causer, optional with states, obligatory with processes.

Turning to sentences corresponding to 43 but with an active verb, we have 53.

53. Alsatians frighten our dog

There are, as with the passive/stative form, three ways of making this sentence unambiguous. Firstly the sentence asserts some state or property of alsatians if the subject NP contains any or some:

54. Any alsatian frightens our dog

Secondly the object of the verb may be marked by the preposition to, which leads also to the use of the progressive form of the verb:

55. Alsatians are frightening to our dog

Notice that the preposition used is to, the marker of Goal elsewhere. Thirdly to give a non-stative reading, the verb may be in the progressive:

56. Alsatians were frightening our dog again today

This means that we must treat the "progressive" as structurally ambiguous between the true progressive aspect and the expression of state found in 55.



Thus a generalisation is possible: in a stative sentence, with the sufferer of fear as the subject, the object of the verb can only be a Force since in 43a-d it is impossible to find a volitional reading for the object, this being in keeping with our discussion above (see 3.1.2.) of expressions like die of, but if the verb is non-stative then the object of the verb may be an Agent or a Force.

Similarly with the causer as subject of a stative verb, we are dealing with a Force, volition does not enter into a state, and as subject of a non-stative verb we have either a Force or Agent depending on whether the subject is interpreted as acting deliberately or not.

We can extend this by considering the following sentences:

- 57a. John's mis-shapen face is frightening to the children
- b. \*John's mis-shapen face is deliberately frightening the children
- 58a. John, with his mis-shapen face, is frightening to the children
- b. John, with his mis-shapen face, is deliberately frightening the children
- 59a. John is frightening to the children, with his mis-shapen face
- b. John is deliberately frightening the children, <sup>\*</sup>∅ with his mis-shapen face

57b is unacceptable because it introduces an inanimate object and asserts of this that it acts deliberately, while in 58a-b, the with-phrase introduces some property of John. However, it is difficult to get a reading in which this phrase refers to John's manner of frightening in 58b. 59a

corresponds to 58a, but 59b does not show the same parallel with 58b, as it becomes unacceptable if there is a pause before the with-phrase. We can only interpret 59b as containing an instrumental phrase, that is John is deliberately using his features as a means of frightening the children. This supports the distinction between Agents and Forces in terms of volition: in 58a and 59a we have sentences deriving from 57a all of which have a Force reading, and a rule of extraposition will account for the major constituent break. However, in 59b, we have an Agent acting deliberately controlling an instrument.

### 3.1.5. On because of

Further support comes from the expression because of which acts differently according to whether we are dealing with an Agent or a Force. Consider the following paradigm of questions, all of which should be taken to refer to the same situations:

60a. Why did John kill Bill?

Because of/For Mary

b. Why did John melt the ice?

61a. Why did Bill die?

\*Because of/For Mary

b. Why did the ice melt?

In 60 we are questioning John's reason for performing the two actions and can use either because of or for, but in 61 where we are questioning the cause of the death and melting we cannot use these expressions. Notice that 61a can be answered by because of and for, if Mary is understood as a suppressed nominal, i.e. some property of Mary was

responsible or alternatively if Mary is understood as the beneficiary of the event. Thus, if 61 cannot be answered by specifying the Agent, it can be answered by specifying the reason or cause in the form of a sentence or nominalisation, that is by specifying the Force:

62a.i. Because John forgot to give him the antidote

ii. Because of John's refusal to give him the antidote

63a.i. Because John ran out of shillings for the gas-meter

ii. Because of John's refusal to give his last shilling for the meter

A similar situation where because of marks the Force and not the Agent is found if we substitute this expression for with in 58 and 59:

64. Because of his mis-shapen face, John is frightening to children

65. Because of his mis-shapen face, John is deliberately frightening the children

That there is a difference is shown by the fact that it is possible to have a paraphrase of 64 of the form:

66. John's mis-shapen face is frightening to children that is, the mis-shapen face is causally involved in inspiring fear in the children. However, this is not true of 65. John's mis-shapen face does not cause the fear, rather we can paraphrase 65 as:

67. John's mis-shapen face made John deliberately frighten children

that is, the mis-shapen face is causally involved in that it is the cause for John's action, not for the children's fear. Alternatively, we might say that with a Force as subject,



because of introduces the manner of causation, but with an Agent, it marks the reason for the action.

The synonymy in sentences 60 and 61 between because of and for requires some comment. We have already found cases where the Benefactive preposition for has a causal interpretation, in particular it marks the Force (see 3.1.2. p. 92 above). Both expressions introduce some cause which is external to the action of the main verb and just as because of has a paraphrase with make, for also has a paraphrase with a causal verb, namely have or get:

68. John rolled the pastry out for Mary

69a. Mary had John roll the pastry out (for her)

b. Mary got John to roll the pastry out (for her)

The point seems to be that the desire to do something for someone can act as the causal force behind the actual performance of the action.

### 3.1.6. Lee

Lee's study of by-clauses is a major source of data bearing on the Agent-Force distinction (Lee, 1971a). His concern is to make a distinction between two types of by-clause, what he calls the causative and method. Lee makes this distinction on the basis of the following characteristics of these clauses.

- (a) The verb in a method clause must be active, while that in a causative may be active but may also be a process verb or a stative verb.

70. John amazed Mary by producing a rabbit out of a hat (method)

71. John amazed Mary by turning out to have red hair  
(causative)

72. John amazed Mary by being so tall

That we are dealing with what is essentially an Agent-Force distinction is shown by the fact that 71 and 72 are unacceptable if we add deliberately or any other Agent selecting adverb:

73. \*John deliberately amazed Mary by turning out to have red hair

Consider the situation also with regard to because of: this expression can be used in a paraphrase of either 70 or 71:

74. John amazed Mary because he produced a rabbit out of a hat

75. John amazed Mary because he turned out to have red hair

but in this case it is both of the sentences which are unacceptable with the adverb deliberately, that is in both cases we are dealing with a causative. This is related to the fact observed above that because of introduces Forces, (3.1.5.). Thus, 74 and 75 also have paraphrases with a nominalisation as the subject:

76. John's producing a rabbit out of a hat amazed Mary

77. John's turning out to have red hair amazed Mary

Thus we need to characterise 70 as ambiguous (or rather unspecified) with regard to the status of John as Agent or not and correspondingly with regard to the status of the by-clause as method or causative respectively. In fact, we are faced with the problem of what is the status of the subject if it is not an Agent. Lee, although he does not

go into detail, wishes to treat it as a derived subject, having its origin in the structure which underlies the causative by-clause. We return to a discussion of this question below (see Chapter 4).

- (b) Causative by-clauses express reasons, while method clauses do not. This is essentially the point made above (p. 103 and section 3.1.5.).

78a. John deliberately amazed Mary by producing a rabbit

- b. \*The reason John amazed Mary was that he produced a rabbit

79a. John cleverly prevented our departure by lying across the doorway

- b. \*The reason John cleverly prevented our departure was that he lay across the doorway

80a. John amazed Mary by turning out to be so tall

- b. The reason John amazed Mary was that he turned out to be so tall

81a. John prevented our departure by accidentally falling asleep across the doorway

- b. The reason John prevented our departure ~~that~~ <sup>was</sup> that he had accidentally fallen asleep across the doorway

We suggested above (3.1.5.) that if the subject is a Force, then because of marks the method of causation, that is, it is the actual causal factor involved in the event as shown by the paraphrase with a nominalization as subject.

However, if the subject of the sentence is an Agent, then because of marks the reason for the Agent's action. It is in terms of this distinction that we can approach the unacceptability of 78b and 79b. In these sentences we have the description of an event involving an Agent performing



some action which is intended to amaze or prevent, while in 80 and 81 we have a state or event which produces an effect but no action performed by an Agent.

We could analyse the situation in terms of the presence of a higher predication in 78 and 79 which is not present in 80 and 81. Thus in 80 we have a direct relation between John's turning out to be tall and the effect which it produces, that is the reason or cause applies directly to the highest predication which in this case is the predication of amazement. However, in 78, for example, we have above the predication of amazement another predication of John's agency, a DO-predication perhaps (we return to details below, Chapter 4), in this case the Reason is predicated of the highest predication, namely the DO-predication, so that we have a sentence where the cause of amazement is predicated of John's action. Thus reasons and causes apply to the highest predication in the underlying structure, which accounts for the above sentences and also the facts about because of. Notice that it is, in fact, nothing overt in the surface structure of 78 and 79 which makes them unacceptable; it is rather a matter of knowledge of the world, that is producing rabbits out of a hat does not normally lead to people setting out to amaze an audience, although they normally set out to amaze an audience by producing rabbits out of a hat. Compare 78b and 79b with the structurally identical but acceptable:

- 82a. The reason John amazed Mary was that he wanted to show how versatile a magician he was

- b. The reason that John prevented our departure was that he wanted to be paid the money we owed him

Thus the facts adduced by Lee to support the method-causative by-clause distinction reveal further details of the Agent-Force distinction.

- (c) As mentioned above (p. 102), Lee (Lee, op. cit.) wishes to derive the subject of a sentence with a causative by-clause from a fuller proposition which in the underlying structure is a manner adverb, while subjects of sentences with a method clause are generated directly in the deep subject position. He has three arguments for such a position.

(1) Lee notes the similarity between the grammar of verbs like begin and that of verbs like prevent. Following Perlmutter (Perlmutter, 1970) there are two verbs begin, the first being transitive:

83. John enthusiastically began to work  
the second being intransitive and appearing in two constructions:

84a. The oil began to flow at noon

b. The flow of oil began at noon

This paradigm is paralleled by that of causative verbs:

85. John cleverly prevented our departure by lying across the doorway

86a. John prevented our departure by accidentally falling asleep

b. John's falling asleep prevented our departure

Lee concludes from this that in 83 and 85 the same

Like-Subject constraint is operating to ensure that the subjects of begin and prevent are coreferential with the subjects of work and lie respectively. In 84 and 86, two rules are operating, first Subject-Raising, which raises the subject of the dependent clause into the subject position of the matrix sentence, to produce the forms 84a and 86a, while the second raises the whole dependent clause into subject position. Thus, he claims, his proposals do not complicate the grammar by requiring any new rules.

(ii) Lee's second argument depends on the possibility of a pro-form occurring in the causative by-clause but not in the method clause:

87a. John deliberately prevented our departure by his lying across the doorway

b. John prevented our departure by his falling asleep

88a. \*John assassinated the Premier by his using a gun

b. John annoyed Mary by his insisting on the point

Lee marks 87a as ungrammatical, but this does not seem to be true for all speakers. According to his analysis, in the a examples Equi-NP has applied obligatorily to delete the lower occurrence of John, so that no pro-form can occur. In the b sentences Subject-Raising has raised John from the embedded sentence into subject position, so that a pro-form may be left in the lower sentence. Certainly Lee's evidence is inconclusive, and the situation is further complicated by the fact that with certain verbs when a pro-form is used the nominalisation is in the non-ing form:



- 89a. John annoyed everyone by arriving late
- b. ?John annoyed everyone by his arriving late
- c. John annoyed everyone by his late arrival
- 90a. John showed us that he was unharmed by waving his arm
- b. ?John showed us that he was unharmed by his waving his arm
- c. \*John showed us that he was unharmed by his moving his arm
- d. John showed us that he was unharmed by his movements of his arm the

One further point that Lee does not mention and which weakens his case is that with (and more rarely through) can substitute for by when a pro-form is used, such that the sentence can only have the causative interpretation:

91. John prevented our departure with his  
lying across the doorway  
falling asleep
92. John annoyed Mary with his insistence on the point
93. John annoyed everyone with his arriving late

(iii) Lee argues that in

94. The cavern frightened Mary

cavern is not an Agent but is derived by Subject-Raising from a causative by-clause, presumably an S with only its subject NP specified, although Lee is not clear on this point. This depends on his assumption that manner adverbs and causative by-clauses have the same origin, and on this basis, Lee predicts that no manner adverb can occur in 94 and further that one cannot question the manner in which cavern frightens because it is not an Agent.

95. \*How did the cavern frighten Mary? Suddenly/  
gradually

There is other evidence for the difference between method and causative by-clauses which Lee does not mention and which we must now make explicit. Firstly, as observed above (p. 103), only causative clauses have a paraphrase with a nominalisation as subject of the sentence. Hence we do not find 96 as a paraphrase of 97, while there is such a relation between 98 and 99:

- 96. \*John's producing a rabbit out of a hat deliberately surprised Mary
- 97. John deliberately surprised Mary by producing a rabbit out of a hat
- 98. John's going into hospital for a major operation surprised everyone
- 99. John surprised everyone by going into hospital for a major operation

Secondly gerunds often have a paraphrase in The fact that and such a paraphrase can only correspond to a sentence with a causative by-clause:

- 99. The fact that John went into hospital for a major operation surprised everyone

Two points which seem to be connected concern paraphrases in in order to and the occurrence of Benefactives (see 3.1.1.c above where we mentioned a similar correlation). Thus if Agents appear with in order to i.e. are to be correlated with volition as suggested above (3.1.2. and see Ross, 1972, Dowty, 1972a 1972b among many others for a similar position) and with method by-clauses, then it is likely that there will be some paraphrase relation between the two sentence types:

- 100. John produced a rabbit in order to amaze Mary

101. John went into hospital in order to surprise everyone

(compare with 97 and the volitional reading of 99 above).

The situation with respect to Benefactives is more complex. If a Benefactive is present in a sentence with a by-clause, then the subject is an Agent and we have a method clause:

102. John woke the children for Mary by turning the radio on loud

The action described in the by-clause is here "directed" or goal-orientated. In a sentence with a Force as subject, i.e. a nominalisation, then it is still possible to have a sentence which is almost acceptable:

103. John's turning the radio on loud woke the children for Mary

but here we are more likely to understand that the result was accidentally of benefit to Mary.

Having set up the distinction between method and causative by-clauses, Lee (Lee, op. cit.) uses the evidence to consider direct and indirect causation. However, his discussion is directed more at the nature of the verbs involved and we shall consider this in the next section (see 3.2.1. below).

We can now make some brief generalisations about Agents and Forces in preparation for a more detailed discussion of their treatment in the grammar below (Chapter 4). Agents are to be distinguished from Forces on the basis of their occurrence with the class of adverbs which includes enthusiastically, cleverly, deliberately etc., with expressions of purpose and with Benefactives. All these features seem to be related to the general notion of



volition, that is only Agents can perform goal-orientated action. Agents and Forces also differ as to their structure: thus Agents are always animate nouns, while Forces are either inanimate nouns of the "disguised nominal" type such as rain, wind, storm etc., those nouns referring to events, nominalisations or finally animate nouns which may or may not occur with a causative by-clause.

### 3.2. Verbs and Their Objects

In this section we shall consider the data on verb classes, their syntax and their relations with the objects with which they co-occur. We include the object in this section because the verb-object relation is closer than that between the subject and verb and is of greater relevance to the sub-categorisation of verbs. Thus it seems more common for a verb to be unrestricted as to the nature of the subject i.e. causative verbs in general may take either Agent or Force subjects (although we return to this below 3.2.2.), while there is not such a variation in the types of object which a verb requires. We shall also find that in studying the verb, we are moving into an area where the notions of direct and indirect causation are more immediately relevant. We take up, then, Lee's discussion of causation.

#### 3.2.1. Lee on Direct and Indirect Causation

Lee gives as an example of a sentence involving indirect causation:

104. The huge boulder prevented our walking along the  
path

and making essentially the same point as Vendler (Vendler,

1967 see also 3.1.2. above) when he talks of "suppressed nominals", Lee notes that 104 is incomplete in a way that 105 is not:

105. John ate the fish

in that 104 may be expanded by a causative by-clause, while 105 may not. The difference is essentially one of Agent versus Force, in that in 104, it is not the boulder itself, as a boulder, which does the preventing, but rather some property of the boulder, e.g. its location. It is in this sense that we might talk of "suppressed nominal", in that part of the information is not given. Contrasting with this, in 105 it is not some property of John which is actually responsible for or performing the act of eating, but John himself, no information is actually suppressed here.

However, we must consider in what way 104 really involves indirect causation. It will be seen that Lee is here equating indirect causation with causative by-clauses and he clarifies the situation by going on to suggest that it is precisely such sentences which contain the predicate CAUSE in their underlying structure, which is to contrast with sentences containing Agents and method by-clauses which do not have this predicate in their underlying structure and thus involve direct causation.

Lee lists four categories of verb which take "causative clauses" i.e. have CAUSE in their deep structure:

- (a) cause itself and its synonyms bring about, make etc.
- (b) verbs from CAUSE and a lower verb or adjective with

an abstract complement: hence necessitate has in its deep structure the predicates CAUSE BECOME NECESSARY, suggest has CAUSE SEEM, guarantee has CAUSE BECOME CERTAIN.

- (c) verbs from CAUSE and a lower verb with an animate experiencer, e.g. frighten, annoy, irritate etc.
- (d) verbs from CAUSE and a lower verb with an animate experiencer and an abstract complement: persuade, suggest, guarantee, prepare.

We can now turn to the arguments which Lee gives to support the presence of CAUSE with indirect causatives and its absence with direct causatives. But note that we should be prepared to query the arguments if only because in a later article (Lee, 1971b) he uses the same arguments to support a case grammar type analysis.

- (1) Lee notes the following sentences are not paraphrases:

106a. John killed Bill

b. John boiled the water

107a. John caused Bill to die

b. John caused the water to boil

Lee attributes this lack of paraphrase to the presence of CAUSE in the structures underlying 107a-b and its absence in those of 106a-b. However, there is such a paraphrase relation, it is claimed, between sentences containing one of the verbs listed above and the overt causative form:

108a. John's late arrival necessitated a reconsideration of the plans

b. The box's surface suggested that it was made of wood



109a. John's late arrival caused it to be necessary  
to reconsider the plans

b. The box's surface caused it to seem to be made  
of wood

Notice that the argument is not a compelling one for the presence of CAUSE in one set of sentences and not in the other: it merely shows that there is some difference which could alternatively be shown by the presence of DO in 106 and its absence in 107, 108 and 109 or even in terms of a distinction between Agents and Force.

(ii) The second argument depends on the following assumption: if element X, occurring in the surface structure, has feature Y correlated with it, then if feature Y appears correlated with some other element of surface structure, then it is possible that at some point in the derivation the underlying structure of element X was present and has been incorporated in the other surface element. Thus Lee argues that since the surface form cause, takes an abstract subject or a causative by-clause, then if a particular verb is the surface representation of an underlying structure which contains CAUSE, that verb will also take an abstract subject or a causative by-clause. The converse of this is that any verb which does not allow an abstract subject or a causative by-clause cannot have CAUSE in its underlying structure. According to this argument, boil and break are not lexicalisations of structures containing CAUSE since they do not allow abstract subjects, at least in Lee's dialect:

110. \*John's failure to turn the burner off boiled  
the water

111. The change in molecular structure broke the window

Lee marks 111 as unacceptable, yet some speakers of English will accept it just as they will accept 112:

112. John's carelessness in not sealing the door killed the astronauts

Evidently the situation is more complex than Lee is willing to admit, in that the generalisation he is seeking to make does not seem to bear any close relation to the data. Thus as further examples, consider the following where in one case the nominalisation as subject makes unacceptable the sentence with kill, although 112 above is acceptable, yet in the other a nominalisation is compatible with open or cause to open:

113. The criminal's urging his accomplice to shoot  
\*killed the policeman  
caused the policeman's death

114. John's increasing the air pressure  
opened the door  
caused the door to open

The situation might be saved if we were to allow two verbs kill for example, one with the underlying structure KILL, taking Agents and method by-clauses, the other with CAUSE DIE, but this raises the problem of why two different deep structures are lexicalised by the same lexical item and it does not solve the problem of the difference in acceptability of 113 and 112.

(iii) Lee further notes that verbs of direct causation, i.e. lacking CAUSE, behave idiosyncratically in comparison with verbs of direct causation. Again the argument depends on a property of the surface form cause, namely that it

implies the truth of its complement, i.e. if John causes Bill to die, then it is the case that Bill dies. Indirect causation verbs have this property as Lee predicts with his analysis.

115a. Something about the pigs suggested to Mary that they were stupid

b. It seems to Mary that pigs are stupid

116a. Possession of a permit guaranteed Mary that she could enter

b. It was certain that Mary could enter

117a. Life had taught<sup>her</sup>/that the world is a cruel place

b. She believed/knew that the world is a cruel place

Thus, in each case the a-sentence implies the b-sentence.

However, this is not the case with verbs of direct causation:

118. John suggested to Mary that pigs are stupid

119. John guaranteed Mary that she could enter

120. John taught Mary that the world is a cruel place

None of these sentences necessarily imply that Mary believed or learnt anything. The point is that, being direct causatives under Lee's analysis and thus having Agent subjects, it is quite possible that either John was lying and Mary knew this or that John did not present his case clearly enough for Mary to grasp the point of the argument. One point which Lee does not mention and which supports some difference between 115-7 and 118-120 is that the latter may take a temporal expression like for three months, while the former may not, but we return to this below (see 3.2.4.b).

Lee's argument is not convincing on two grounds.



Firstly, as noted with kill above (p. 115), his position requires the recognition of two different underlying structures, both of which have the same lexicalisation, i.e. suggest lexicalises both SUGGEST which has an Agent subject and CAUSE SEEM. Any treatment which leads to such a position is weakened by the lack of generalisation involved. The second point, however, is more damning: if suggest contains CAUSE because it implies seem, that is CAUSE implies the truth of its complement, then on the basis that kill implies that someone died, then we can argue that kill also contains CAUSE in its underlying structure. If we fail to make this step, then again we are failing to capture a generalisation: in the case of suggest Lee is handling its implications directly in its deep structure, while in the case of kill they must be handled elsewhere in the grammar.

Although Lee's arguments need comment and refinement and his characterisation of direct and indirect causation is in conflict seemingly with that of Lakoff (Lakoff, 1970), his arguments serve to point up further the Agent-Force distinction and suggest areas of discussion with regards to verbs. A consideration of the difference between Lee's and Lakoff's concepts of direct and indirect causation is revealing. Lee's approach is basically syntactic while Lakoff seems to be orientated more towards semantics. Lee is primarily concerned with the relation between subject, verb and the by-clause, where one is possible and he makes

no reference to the nature of the object: thus for Lee direct causation is a concept used of the relation between subject and verb where the subject is an Agent, while indirect causation is the corresponding relation when the subject is a Force. The difference is handled by what is essentially a difference in syntactic structure, namely the presence of CAUSE. Lakoff's examples suggest that the important criterion is the relation between the verbal action and the object. Viewing the situation in these terms helps us to understand why the situation with regard to the lexicalisation of structures containing CAUSE is more complex than Lee presents, that is, Lee has ignored an essential variable in such sentences, namely the nature of the object of the verbal action.

As noted Lee's terms "direct" and "indirect" refer essentially to syntactic phenomena, i.e. the presence of an Agent as subject with "simplex" verbs like kill as opposed to a complex verbal element, one of whose elements is CAUSE with a Force as subject. The problem is whether such a syntactic position is of real help in explaining what is a matter of semantics. That we are dealing with an area closely related to semantics, or at least an area which is not captured by Lee's terms, can be seen by reconsidering Lakoff's initial examples:

- 121. John opened the door by turning the knob
- 122. John caused the door to open by turning the knob
- 123. John opened the door by increasing the air pressure
- 124. John brought it about that the door opened by  
increasing the air pressure

In each sentence we have an Agent and a method by-clause and thus for Lee all the sentences involve direct causation; Lakoff, however, characterises 123 and 124 as involving indirect causation, that is the Agent does not operate immediately upon the object. Thus it appears to be the nature of the by-clause which influences the judgement of directness or indirectness, and relates to whether the action is normally the means of opening doors and whether the action needs to be done by the one who opens doors or whether the action, as in 123 and 124 could open the door without being under the control of an Agent.

Referring back to Lee's second argument for the presence of CAUSE with sentential subjects, we noted that under his analysis 111 should be unacceptable:

111. The change in molecular structure broke the window

For Lee this involves indirect causation, and is correlated with Forces and an underlying CAUSE, whereas it would normally be interpreted as direct causation. The situation becomes clearer when we consider 113. The sentence with killed is unacceptable, whereas it is acceptable with cause, yet killed is acceptable in 112. The relevant generalisation here seems to be in terms of intervening agent (see Cruse, 1972) and its relation to the object, the one factor which Lee ignores. 111 is acceptable since no other causal factor intervenes between the change in molecular structure and the breaking of the window, while in 113 the criminal's urging is not the immediate cause of



death, rather it is his accomplice who actually kills the policeman. Similarly in 112 John's carelessness is directly responsible since there is no other factor. Alternatively we might see the situation in terms of chains: in 111 we have only one link which involves the change in molecular structure and the breaking of the window, while in 113 we have two links, firstly between the criminal operating on his accomplice and secondly between the accomplice's action and the policeman's death.

Lee's grammar cannot account for the facts about immediacy of action as suggested above. We need, then, a definition of causation in terms of the relation between the verbal action and the object and also some means of accommodating the notion of intervening causes. This is essentially the point made by Fillmore (Fillmore, 1971a) when he talks of Principal causes and Immediate causes. Thus, for Fillmore, Principal causes will be Agents and Immediate causes will be Instruments. We shall consider more fully later (Chapter 4) how this is to be captured in a grammar which acknowledges Agents, Instruments and Forces as possible categories of causal elements. Thus we may tentatively characterise indirect causation as connected with the nature of the immediate cause.

Lee's terms indirect and direct causation are also inadequate in that they do not allow us to account adequately for the situation described in his third argument (see p. 116 above), namely that 118 does not imply 115b:

118. John suggested to Mary that pigs are stupid

115b. It seems to Mary that pigs are stupid  
 Following the suggestion above of analysing sentences in terms of primary and secondary causes, we see that 118 has a primary cause, an Agent, John and as immediate cause an action of suggesting, as opposed to 115a:

115a. Something about the pigs suggested to Mary that they were stupid

which has only an immediate cause, something about pigs.  
 The crucial factor seems to be that 118 only asserts that the primary cause performed an act of suggesting, that is an Agent performed some action, which does not entail that the immediate cause had any affect on Mary, while in 115a, in the absence of an Agent, the immediate cause does have an affect on Mary.

Another fact which may throw light on the situation concerns the occurrence of purpose clauses. We noted above that Benefactives and purpose clauses occur with Agents and method clauses (3.1.6.). Thus as a paraphrase of

120. John taught Mary that the world is a cruel place  
 we have a corresponding sentence with a purpose clause:

125. John did something (in order) to teach Mary that the world is a cruel place

However, we do not find 126 as a paraphrase of 117a:

117a. Life had taught Mary that the world is a cruel place

~~126~~. Life had done something to teach Mary that the world is a cruel place

126 can only have a good reading if it is treated as involving a result clause. 125 exactly parallels the situation with 120, in that both do not necessarily imply

success on John's part. Thus as a generalisation, we might say that Agents do not necessarily imply the success of the action, while Forces do imply that success.

A final point which comes out of Lee's discussion concerns the possibility that there is a predicate CAUSE. We have already suggested that there may be a higher predicate DO which is to be correlated with Agents (p. 105 and p. 115), and there is then the possibility that there may be a second predicate to be correlated with Forces. One strong possibility is that this predicate is CAUSE. Any such suggestion will entail further discussion of and a refutation of the arguments in the literature against Lexical Decomposition. In what follows immediately we survey further facts about verbs with regard to their structure, meaning and relation to other elements of the sentence.

### 3.2.2. Completeness of Verbs

Before going further into the nature of causative and active verbs, there is a further point about completeness which needs to be clarified. Above we used "completeness" in the sense given it by Lee, namely to refer to the possibility that the sentence could take a further by-clause to further specify the nature of the verbal action:

104. The boulder prevented our walking along the path

105. John ate the fish

Notice that sentence 104 which Lee gives as involving indirect causation and an incomplete verb has what in our terms would be a Force, namely the boulder as subject, while 105 has an Agent and is complete in Lee's terminology.



However, while the notion of completeness is comparatively clear with Forces as subject, it is more complex and interesting with an Agent subject. Thus in 105 John is an Agent and no completing by-clause is possible to further clarify the nature of the action, but it is not possible to form a generalisation on this fact such that sentences with Agent subjects are complete, since we find such sentences as:

127. John killed Bill by giving him an overdose of Metatone, a tonic which contains strychnine

which has an Agent subject and a completing by-clause.

On the basis of these facts it seems that we need to distinguish between two types of verb, those which can take a completing by-clause and those which cannot. In the first category will fall such verbs as kill, prevent, amaze, surprise, teach etc. As we shall see, the important generalisation is in terms of their possible occurrence with Forces as subject, as opposed to those verbs which cannot and so necessarily take only Agent subjects, such as eat, walk, run, laugh etc., i.e. verbs of bodily movement or "middle" verbs, (see Diffloth, 1974 for further discussion). We shall return to the implications of this distinction in the discussion of the formalisation of the grammar (see chapter 4 below). For the moment we may say that there is no act of killing or amazing etc., which does not involve some other action, but there is no action of walking or running which, under normal circumstances is not itself an act of walking or running.

### 3.2.3. Categories of Causative verb and their Objects

In this section we wish to survey the facts about the "full" verb do, that is, those occurrences of the form do which do not fall under the list of occurrences referred to in transformational literature as "do-support" (Chomsky, 1957). There are at least three categories of verb which can be distinguished by using the verb do, according to whether the verb takes an object, and if it does whether the object is marked in certain circumstances by the preposition to or with. In fact, do occurring with something or the same thing seems to function as a pro-form for the verbal element.

Consider the following acceptable sentences:

128. John ran home and Bill did the same

129a. John put his car in the garage and Bill did the same with his bike

b. John kicked Mary in the teeth and Bill did the same to Marjory

Notice that 129a becomes unacceptable or at least odd if we use to instead of with, just as 129b becomes unacceptable if with is used instead of to. This comes out more clearly if we consider the difference between the two questions

131. What did you do with the book?

132. What did you do to the book?

The first question presupposes that the book is still whole and undamaged: thus the following are acceptable responses:

132a. I put it back on the shelf

b. I gave it to Bill

whereas the second question presupposes that the book has

been damaged in some way:

133a. I accidentally spilt ink over it

b. I tore it up

Thus we may set up three categories of verb: the first will include verbs of body movement such as run, walk, cycle, stand etc., the second, corresponding to the do with paradigm, will include verbs of movement of an object from one concrete location to another, put, give, hand, place, return, etc., and the third we can call "transitive" and will include all those verbs which in the last section we called "incomplete", i.e. they can take a Force as subject. Notice that we specify concrete location for the second category since, according to Localist Theory, the third category will also involve movement into a state or abstract location, in this case a location defined by the nature of the verbal action: thus killing defines the ultimate state as being one of death, with putting the object does not enter into the final state in the same way, in this case it is the prepositional phrase which defines the location.

If run, walk, etc. are verbs of body movement, and put, give, etc. are verbs of movement of an object, in what category do we classify verbs like lift, shake, twitch, nod etc., which, in opposition to verbs of the first category, express movement of part of the body, while the latter express movement of the whole of the body? Similarly the verbs under discussion differ from the second category of verbs, in that they involve movement which is in a sense reflexive, i.e. the Agent moves part of himself. The



important point is that, under certain circumstances, body-part movement verbs behave in a similar way to those of the second category.

We suggested above that verbs of the second category are do with-verbs, that is their objects are marked, in certain occurrences, by the preposition with. It would be more accurate, however, to say that one of their objects is marked by with, the other by a motional preposition like to, onto, into. Thus with verbs of this category we find the following paradigm, ignoring for the moment the difficulties with the verbs give, send, hand, etc., to which we return below (Chapter 5):

134a. John loaded the bricks onto the cart

b. John loaded the cart with bricks

135a. John planted the trees in the garden

b. John planted the garden with the trees

Thus we find the object moved marked by the preposition with when it does not immediately follow the verb. The same is true, by and large, with the objects of body-part movement verbs. Thus with the verb nod we have an optional preposition:

136. John nodded (with) his head

The major difference is that, unlike verbs like load, the motional preposition is always present:

137a. John waved (with) his arm at Bill

b. John waved at Bill with his arm

We find a similar pattern with lash out, thrust, kick etc.,

138a. John lashed his fist out at Bill

b. John lashed out at Bill with his fist

The status of the structure without the preposition with is of interest in the light of Schwartz' observations on the VP-constituent (Schwartz, 1972 and also Postal, 1974). He notes a general tendency of all languages not to allow any element to intervene between the verb and its direct object. i.e. we find unacceptable the insertion of an adverb between verb and object:

139. \*John opened suddenly the door

and suggests that this is a feature of the VP-constituent. Alternatively, we might say that this is a test for direct objects. Thus nod and with his head do not form a constituent, or alternatively the prepositional phrase is not a direct object, which suggests that we are dealing with two different structures in the following:

140a. \*John nodded vigorously his head

b. John nodded his head vigorously

c. John nodded vigorously with his head

d. John nodded with his head vigorously

Marking the object which moves by a preposition like with which elsewhere marks the Comitative, Locative and Instrumental cases (see 2.2.3.1. and 2.2.3.2) is not restricted to Modern English. In Old English we find a similar construction where the dative case form is used:

141. mundum brugdon

hand-dat.pl. lash-out-they

'They lashed out with their hands'

The same construction is found in the Classical Languages,

as pointed out by Haudry (Haudry, 1970) in his survey of the Latin "instrumental", i.e. the case which is commonly called the "ablative" in standard Latin grammars. Thus besides the examples like the following, which have exact parallels in Modern English:

142a. Circumdedit murum urbi

around-give-past-he wall-acc city-abl

'He put a wall around the city'

b. Circumdedit urbem muro

around-give-past-he city-acc wall-abl

'He surrounded the city with a wall'

we also find sentences of the following pattern:

143. Jecit lapidibus

throw-past-he stone-abl-pl.

'He threw the stones'

although in this particular sentence, we are more likely to assume ellipsis, in that some object or person is likely to be the target of the throwing. However, this notion of intended target is not necessarily present in sternere solum telis, which Haudry translates as "spread the arms on the ground", (telis is the ablative plural). Haudry talks of these objects in the instrumental case as "l'objet interne" and as "le constituant immédiat de ce verbe, par référence auquel le sens du verbe se définit". The notion of internal object which defines the nature of the verbal action is of particular interest in relation to certain facts about English, namely the paraphrase relations between such expressions as give help, put water, put butter etc. and the



simple verbs help, water, butter etc. where in the first we have a verb of movement and an object which Haudry would call internal and the second a verb based on that noun. Anderson (Anderson, 1971a) treats such pairs in terms of the Subjunction of the noun to the verb, which parallels Gruber's notion of Incorporation (Gruber, 1965). Thus it is possible that whatever property enables us to define such objects as "internal" may be of relevance to Subjunction.

One final property of the marking of the object which moves in the Classical Languages is that it is not restricted to causative verbs, so that we find in all these languages such sentences as:

144. pluit lapidibus

rain-pres-it stone-abl-pl.

'It's raining stones'

The verbs of the third category, which we can call do to-verbs, are of interest in relation to the preposition used, i.e. the spatial preposition to (see 2.2.2.2., 2.2.2.3., 2.2.3.1., 2.2.3.2.). Thus we have some generalisation possible, in that just as the recipient of the hay in the following sentence is marked by a motional preposition:

145. John loaded the hay onto the cart

so in certain circumstances the recipient or patient of an action can be marked by a motional preposition:

146. John thrashed Bill and Mary did the same to  
Marjory

Just as hay passes from John to the cart, so the action of thrashing passes from John to Bill. Thus one possibility

is that it is the category of do to-verbs which capture the notion of direct causation. This is suggested by Grosu (Grosu, 1971). Talking of the verb persuade, Grosu observes: "This surface object captures the information that the subject acts directly upon the object in achieving the goal, in contradistinction with a causative verb like bring about which does not specify who the agent operates on in attaining his goal...." (Grosu, op. cit.: 63).

#### 3.2.4. Middle verbs

We introduced the term "middle" above when we classified verbs like eat, walk, run etc. as middles. In this section we shall look at the class of verbs which are generally classified as middles in more detail, with special attention to the use of the term and the middle voice in Indo-European languages. It will be found that the middle voice, whether marked by some inflection, a reflexive pronoun or a particle, interacts with aspect, volition and the accomplishment-action distinction discussed by Vendler (Vendler, 1967).

The situation with regards to the middle voice in Indo-European and the Classical Languages is both confused and confusing. There seems to be no complete classification or explanation of the voice which does it full justice. A further problem is that we need to distinguish the arguments concerning its composition, derivation and development from what we know of its uses and "meanings". It is now generally accepted that originally there was no passive voice in Indo-European, but rather a distinction between active and middle and it was from this latter that the

voice called passive developed (cf. Benveniste, 1966, Kurylowicz, 1964, Gonda, 1960, Hatcher, 1942, Claflin, 1927, 1929 etc.). As for the uses of the middle, while it is now generally accepted that there is no overt relation in the forms of the middle with a reflexive pronoun (as suggested by Bopp, see Claflin, 1927), it is generally agreed that the uses and meanings of the middle are to be related to the idea of reflexivisation, (Claflin, 1927, 1929, Benveniste, 1966). The relation with reflexives is more obvious in the modern Romance languages, where a reflexive construction is used both for passives and middle constructions (Ruwet 1972, Babcock, 1970).

The original observation of this relationship seems to go back to Panini who, according to Benveniste (Benveniste, op. cit.) (but see also Humbert, 1945, who attributes the original mention of Panini's terms to Wackernagel), talked of "parasmaipada" or word for another as opposed to "atmanepada" or word for oneself. Benveniste gives the examples of Sanskrit yajati "he sacrifices" (in his role as a priest) while the middle yajate means "he sacrifices for himself". However, if we mark the middle as differing from the active voice with regards to such a reflexive relation, we still need to explain all the different uses of the voice. In the main the question never arises in the literature of whether we are dealing with a "core" meaning for the middle to which all uses may be related or whether, on the contrary, we are to look on it as several



different uses which are marked the same because of some "family resemblance". A third possibility we cannot explore fully here is that we are dealing with something more "syntactic" than semantic, that is the middle voice is structurally defined in terms of clause-mates and a condition on reflexivisation as a rule of the grammar.

Gonda (Gonda, 1960) reviews the works relating to the middle voice and points out the main deficiencies of the theories. In the main we are dealing with a series of differing taxonomies and as taxonomies, there is no reason to believe that they would be able to provide an explanation of why Indo-European should have two voices, nor why certain verbs can occur only in the middle or active while others occur in both voices. Often the discussion becomes one concerned with stylistic effect and the justification of why the middle is used instead of the active in terms of expressiveness. This frequently leads to incompatible views: thus, in talking of the process verbs swim, shine etc. Gonda (Gonda op. cit.: 49) observes that their Greek counter-parts could appear in the active or middle voice and claims that the middle emphasises that "the process was, so to say, limited to the sphere of the subject with regard to whom it took place", yet Hatcher (Hatcher, op. cit.) not only treats these "processes" as examples of different classes, but suggests that verbs of motion in the middle voice place the activity in relation to some greater goal or purpose. We shall consider now some of the main functions of the middle mentioned in the literature,

with special reference to Gonda and Hatcher.

The main function enumerated in the literature is the "reflexive" use. Thus Greek has middle forms for the verbs "to cut off one's hair" and "to hang oneself". Another verb in the active voice means "to stretch out, to reach, hold, out, give etc.", whereas the middle means "to stretch oneself out, to reach for, aim at, long for". This would appear to support Hatcher's view of the middle as in some sense purposive. Another category, called "dynamic" middle, comprises those verbs like swim in Greek which have both active and middle forms. A third category, called "Medium der Beteiligung", contains verbs which translate into English as sneeze, belch, be furious, ashamed, be born, melt, perish etc. (Gonda, op. cit.). Gonda suggests that the relevant generalisation is in terms of something happening to a person, "or takes place in the person of the subject so as to affect him etc., without any agents being mentioned, implied or known" (Gonda, op. cit.: 49). Gonda, in fact, follows the traditional practice of setting up the taxonomy of uses, making some seemingly arbitrary choice as to which of them is basic and then proposing that this is the "meaning" of the middle voice. Thus on the basis of his third category of verbs, Gonda suggests that the middle verbs must be considered as "eventives", denoting that the subject is in some way affected by the process, either to his own advantage or as patient of the action and it is from this latter that the passive voice develops.

If Gonda's proposals are acceptable on the basis of the data from the Classical languages which he presents, his hypothesis will not account for the data presented by Hatcher (Hatcher, op. cit.). The situation in Latin is more complex than that in other Indo-European languages, as the middle voice has weakened leaving a vestigial category of verbs called "deponents", (cf. Claflin, 1927, Hatcher op. cit.) and at the same time, the history of Latin shows the gradual development of the reflexive pronoun as a marker of the middle voice (Hatcher op. cit. for a detailed study).

Hatcher divides verbs into two categories: firstly those which denote "natural processes" and which typically appear in the active voice and secondly verbs denoting processes which are purposeful or directed towards some goal (compare also Hill, 1969 and the verb types of Cupeno). Hatcher says that with verbs of this second category, "no longer is simple 'activity' involved" (Hatcher, op. cit.: 15). This latter category of verbs will also contain verbs describing actions which are unnatural or "induced". In terms of these categories, consider the situation in Latin.

In the category of directed action, we find verbs of natural phenomena, as Hatcher calls them, such as sequor "to follow", loquor "to speak to". Verbs of emotion contrast with the active voice when in the middle with regard to whether the emotional state proceeds naturally out of the subject, in which case it is active, or whether it is a state into which the subject enters, marked by the middle,



which parallels Gonda's notion of eventive. Thus saevio presents the subject as being of an angry disposition, while irascor presents him as becoming angry. Likewise puto "to think" is a natural faculty of the mind, contrasting with meditor, which is "that into which one's whole self enters" (Hatcher, op. cit.: 17). The difference corresponds roughly to that between English think and think about. Notice how in English the difference lies in the use of the preposition.

The same relation between natural action and the active voice on one hand and directed action and the middle on the other is found also with motional verbs. Hatcher says that with these verbs "the deponential idea of 'entering into' is seen at its most intense". Notice also the occurrence of the preposition in the English equivalences. Thus we find in Latin proficiscor "to set out", sequor, "to follow after", revertor "to turn around", orior "to rise up": these present the subject as involved rather than performing according to Hatcher, a point which seems difficult to reconcile with the idea of these being directed actions, which links best with the view of the subject as an Agent acting intentionally. The notion of directed action is best seen with verbs of enjoying or profiting: utor "to use", fruo "to enjoy" etc. Notice that these verbs, like most middles which take an object, govern the ablative case in Latin, and the dative case in Greek, i.e. those cases which typically mark the instrument or, with verbs of movement of objects or body-parts, those cases which mark the object

moved.

One development of the Latin middle voice which seems difficult to relate to the "eventive" meaning of this voice recognised by Gonda is the formation of middle verbs based on a nominal stem "referring to some element of recognised significance which conditions the activity of the subject.. to represent the subject as involved in certain pursuits or behaviour" (Hatcher, op. cit.: 21). Thus we find poetor "to be a poet, write poetry" (poeta "poet"), agriculor "to cultivate land" (agricola "farmer"), cocionor "to be a broker" (cocio "broker"), graecor "to live in the Greek manner", naviculor "to sail in a small boat" (navicula "small boat").

A common element to a large number of middle verbs is the idea of undergoing an experience, and it is from this presumably that the passive use of the middle forms developed. Hatcher argues that if laetor means that I experience or go into a state of joy, then it is a short step to the formation of laeto which, having an active form, means "I cause joy". Thus for verbs of natural phenomena we find a contrast between an active and middle form: for instance, Latin has two verbs translated into English as "burn", the active form ardeo is used of flames while the middle form incendor is used for example of a house which is on fire.

If we consider all the different uses which scholars have found for the middle, it is difficult to find one generalisation which will give us a "core meaning for this

voice. However, as already suggested, it is possible that a more structurally based approach would be more fruitful. One common element seems to be that the subject is the location or goal of the action in some sense. Thus the middle voice might be a simple marker of the identity of reference between a subject and some other element in the structure. Given a Localist treatment of aspect of the form proposed by Anderson, (Anderson, 1973, see also Miller, 1972a on Russian) there will always be two co-referential nouns, one the "subject" of the aspect predication and the other the subject of the state or process predication which can trigger the formation of the middle voice. That there is a strong relationship between the middle voice and reflexivisation cannot be denied. Vendryes (Vendryes, 1947) tries to show that there is a formal relation between the two not only in Latin, Greek and Sanskrit, but also in the Celtic languages, both ancient and modern, and in the modern Romance languages. Key (Key, 1874) cites examples showing the same relationship from "Bohemian", Lithuanian, Swedish, Danish and Lapp. That this is not a phenomenon restricted to the Indo-European languages is shown by Velten (Velten, 1931) who cites Arabic, Finno-Ugrian and Turkish. Further the idea of reflexive and the correlation between the middle voice and the notion of the action or state being restricted to the sphere of the subject or of the subject as location or goal of the action ties in also with our using the term "middle" for eat, run etc., verbs of body-movement. Diffloth (Diffloth, 1974) makes essentially the same point:



he quotes from Benveniste (Benveniste, 1966) and makes essential reference to the notion of the subject as location of the process of an action in his study of Semai and reflexive verbs in French. He notes further that such a notion is not allowed for within the Transformational Generative approach and we may add that it is more easily and readily accommodated within a Localist approach to case grammar.

The situation with respect to the middle in languages which mark it with a reflexive pronoun presents us with a problem, namely when are we to recognise the reflexive as a fully functioning reflexive form and when as a middle marker. Ruwet (Ruwet, 1972) opts for entering the middle verbs in the lexicon with their associated reflexive pronoun. However, this is merely a means of avoiding the question of how to explain the middle voice and why a reflexive pronoun is used instead of some other arbitrary morpheme. We suggested above that the middle interacts with aspect and volition. We shall take up this point and consider it in relation to Babcock's discussion of Spanish (Babcock, 1970) and to the brief discussion above in order to see what light this may throw on English verbs of movement.

(a) Babcock (Babcock, op. cit.) gives a clear presentation of the facts about the middle voice in Spanish. The interaction between the reflexive pronoun se and the notion of starting-point of the subject's movement is of relevance.

Thus consider the following:

147. Juan se volvió a casa

'John returned home'

This sentence has the implication that John went home from the place where the speaker is standing, while without the reflexive pronoun there is no implication at all about John's starting-point. Similarly, if the source is overtly marked in the sentence, then verbs of motion require se:

148a. Juan se va de Madrid

b. \*Juan va de Madrid

'John left Madrid'

149a. Juan se cayó del árbol

b. \*Juan cayó del árbol

'John fell out of the tree'

Babcock notes that the grammarian Alonso refers to such uses as "inceptive". The significant point seems to be that the subject goes into an action or moves towards a goal, while the sentence does not assert or necessarily imply that the subject reaches the goal. A similar situation is found in Modern French where s'approcher de "to approach" s'en aller "to leave, go away" express motion towards or away from, while leaving it unspecified as to whether the goal is reached or whether there is, in fact, such a goal. According to Hatcher (Hatcher, op. cit.), this use of the reflexive pronoun to mark going into a state or action was more productive in Old French, (see also Bally, 1932: 324). A further example of this rare aspectual use of the reflexive form is with the verb mourir "to die", where we find the

opposition:

150a. Il meurt

b. Il se meurt

where 150a would generally be translated as "He is dying" while the second is better translated as "He is slowly dying".

If we find what we may call an "inceptive" se in Spanish, then we also find a "stative" se. Under the heading of "habitual mediopassive", Babcock discusses such sentences as:

151. Juan se espanta facilmente

'John frightens easily'

152. Se rasga el papel facilmente

'Paper tears easily'

153a. Se ven las montanas desde aqui

'The mountains can be seen from here'

b. Las montanas se ven desde aqui

'The mountains are visible from here'

All of these sentences focus "on some inherent capacity of the object" (Babcock, op. cit.: 44). She observes that 153a presupposes that there is a potential viewer, while 153b focuses on the visibility of the mountains "independently of whether anyone sees them or not". A further general property of Spanish appears to be that the order NP se V usually corresponds to English intransitive passives (cf. frightens in 151) or "-able constructions".

Both of these uses of se have in common the fact that the entering or location of a subject in a state is asserted of the subject, whether the state be one of movement or



habit. It seems that a Localist treatment similar to that mentioned above based on Anderson's proposals (Anderson, 1973b) could handle the data and go some way to explaining the occurrence of the reflexive pronoun. Thus the underlying structure of 151 analysed in a Localist case grammar could be paraphrased as something like "John is in a state such that he frightens easily", where the embedded subject surfaces as a reflexive pronoun. An analysis along similar lines seems to be possible for Welsh passives: thus

154. Cafodd y bachgen ei rybuddio gan y dyn

Got the boy his warning by the man

'The boy was warned by the man'

where in this case we have a possessive pronoun occurring as the marker of the embedded object.

In her discussion of the Spanish verb irse "to go away" (Babcock, op. cit.: 49) Babcock appears to be equating the reflexive form se with the particle away of English. This is interesting in the light of what was said above about the occurrence of a preposition or particle in many of the translations of the Latin middle verbs. That there might be such a relation is not unexpected. Velten suggests (Velten, 1931) that there is a close relation between aspect and voice, specifically between the middle voice and durative aspect, (compare Gonda's "eventive" and "inceptive se"). Further it is known that the Germanic languages in general continue the Indo-European trend towards marking aspect by particles on the verb, and that English verbal compounds of verb + particle are a reflex of this. Thus we might expect

that there could be a relation between the use of reflexive pronouns in the Romance languages and the particles of English. However, the use of verb + particle as opposed to the simple verb does not seem to carry the same aspectual distinctions as those suggested for Spanish. Rather, the particle seems more closely related to the notion of completion of the action rather than to inceptives and is also related to volition, that is the relation here seems to be closer to Hatcher's idea of natural versus directed action with the particle marking directed action.

(b) Fillmore, (Fillmore, 1971a), in his discussion of verbs of movement and verbs of manner, suggests that we need to give the verb swim two different case frames depending on whether it appears in such sentences as

155. John swam from noon till dusk

or

156. John swam from the beach to the buoy

In the first case we are dealing with a simple action, while in the second we have a situation in which John intends moving to the buoy and he does so by swimming to it, i.e. a directed action. Notice, also, that, as remarked above, Greek had both an active and middle for the verb "to swim", although it has not been possible to ascertain whether the difference corresponded exactly to the action versus manner of moving distinction found in English. However, we might expect that, on the basis of our discussion of the middle voice, there are syntactic reasons for distinguishing between the two senses of the verb swim, specifically a reflexive

pronoun would be possible with the manner of movement verb, if it is a directed action. This is, in fact, the case, although some speakers do not find the second sentence fully acceptable:

157. \*John swam himself in the lake all afternoon

158. John swam himself across the lake

Those speakers who will not accept 158 will, however, accept the reflexive with a "more neutral" verb:

159. Get yourself back to bed this instance

The two senses of swim differ not only in the type of locative phrase they will allow, i.e. in the lake (place where) versus across the lake, to the buoy, (goal), but also with regard to the type of adverb for an hour vs. in an hour and their paraphrases in spend and take respectively (see Vendler, 1967 and further discussion below).

Fillmore suggests that the difference between the two verbs swim can be captured by positing two different underlying structures instead of having two different case frames. The action verb swim will be the lexicalisation of a simple predication of performing an action, while the manner verb will lexicalise a structure like "by swimming go" which derives from a complex predication of movement containing a goal and manner adverb governing the verb swim which has been incorporated into the main verb. The suggestion is of interest in relation to the observations above concerning pairs like give help and help, which we suggested, following Anderson (Anderson, 1971a), come from the same underlying structure. Thus with the verb to help, we have



a situation in which an object which moves and which under certain circumstances could be marked by with is incorporated into the verb (for incorporation see Gruber, 1965 Nilsen, 1973), while with the verb swim we have the case of an Instrument under Fillmore's analysis i.e. "by swimming" being incorporated into the main verb. The situations are probably related, possibly on the grounds of the close relation both diachronically and synchronically between by and with, both are historically locative prepositions which have gone through the same development, i.e. locative, comitative and instrumental uses (see 2.2.3.1. above) and both can be used to mark location and instrumentality. There is another similarity which depends on Haudry's observation (Haudry, 1970) that certain objects are "le siège du proces", they define the nature of the verbal action and it is these objects which we have correlated with the objects of do-with-verbs, i.e. verbs like help: thus just as the object defines the nature of giving and is incorporated into the main verb to form help so the element which is marked with a similar preposition is incorporated into a movement predicate to produce the surface verb of manner swim.

We referred above to Vendler (Vendler, 1967) and his distinction between accomplishments and activities. This distinction also corresponds to that noted by Fillmore between the action verb and the manner verb. Vendler distinguishes between the two types of verb by the following tests:

(i) as noted above activity verbs take for an hour as their temporal adverb and accomplishments allow only in an hour.

(ii) if one asserts that John stopped swimming in the lake, then it is the case that at some point John was swimming in the lake. If, however, one asserts that John stopped swimming across the lake, then it is the case that John did not swim across the lake although he may have been swimming at some time.

(iii) Related to the above point is the fact that accomplishment verbs can be the complement of the verb finish, in the sense of "complete", while activity verbs cannot: thus 160a is acceptable while 160b is not:

160a. John finished writing the letter

b. ?John finished swimming in the lake

The important thing is that accomplishments "have a 'climax', which has to be reached if the action is to be what it is claimed to be" (Vendler, op. cit.: 100) and similarly "they go on in time, but they proceed towards a terminus which is logically necessary to their being what they are. Thus letter-writing has a terminus, but swimming in the lake does not."

This distinction between activity and accomplishment also bears on our earlier discussion of the verbs like teach, suggest, etc. (see 3.2.1. above). There we noted that sentences like:

161. John taught Bill French  
is vague as to whether Bill now knows French or not.

Moreover, sentence 162a which has an animate subject (i.e. an Agent potentially) can take for three months which marks it as an activity, while 162b cannot so that it is an accomplishment sentence:

162a. John taught Mary that the world is a cruel place for three months

b. \*Life taught Mary that the world is a cruel place for three months

The situation is readily explained in terms of the activity-accomplishment distinction, in that an Agent can perform both activities and accomplishments, i.e. John can do a series of actions which are called "teaching French" and he can also do something to Bill which involves the activity of "teaching French and also Bill's learning French, but with a Force as subject only an accomplishment reading is possible. Thus only animate beings perform activities, Forces do not. We could handle this situation by extending the analysis proposed by Fillmore, such that the accomplishment verb will always have two predications, one of result e.g. "John is across the lake", "Bill knows French" and one which we may term manner e.g. "John swam", "John teaches French". Notice, that the activity reading is more likely with the animate object marked by the preposition to;

163. John taught French to Bill

and this difference between 163 and 162a and 161 seems to parallel the difference between:

164a. John loaded hay onto the cart

b. John loaded the cart with hay



that is the direct object corresponding to the prepositional phrase is more to be affected by the action, to be in a state resulting from the action. We return to these verbs below (see Chapter 5) but see also Anderson (Anderson, 1976) and Green (Green, 1974).

We have also suggested that verb + particle compounds in English seem to be closely related to volition and accomplishment. Bolinger (Bolinger, 1971) considers the feature of intentionality to be a widespread property of such phrasal verbs as opposed to their non-phrasal counterparts. While the distinction is not absolute, i.e. it is not the case that non-phrasal verbs and non-volitional and that phrasal verbs always have this feature, in general an intentional reading will be more likely with the phrasal verb. Thus to think that X is not necessarily a matter of volition, but to think about X implies conscious effort on the subject's part. Similarly while

165a. John broke the desk  
is likely to be viewed as an accident

165b. John broke up the desk  
will be viewed as an intentional act. This may be related to the fact that the particle expresses thoroughness or completeness which may generally be looked on as a consequence of doing something intentionally.

Bolinger (Bolinger, op. cit.) also discusses the aspectual nature of phrasal verbs. While certain verbs do have an iterative or durative aspect, turn out, grind out, carry on, keep on etc., it is more common for the phrasal verb to

emphasise the completion of the act, shrivel up, blacken up, follow up, gather up, yield up, close up. The important point, however, is that phrasal verbs allow an analysis which is in keeping with what we have suggested for verbs of accomplishment, i.e. an analysis into two underlying predicates, one of movement, the other of manner. Thus chop down is possibly "cause something to become down by chopping", throw out could be "cause something to become out by throwing". Thus the particle may be treated as the expression of the goal of the movement. Such an analysis will also generalise to verbal compounds like cut open, chop free, which could be derived from "open by cutting" and "free by chopping", which would also help to explain why the adjective occurs in the same positions as the particle of phrasal verbs:

166a. John looked the reference up

b. John looked up the reference

167a. Hornblower chopped free the shattered mizzen mast

b. Hornblower chopped the shattered mizzen mast free

### 3.2.5. DO and CAUSE

We have already suggested that we need to posit two predicates, namely DO and CAUSE, correlated with Agent as subject and Force as subject respectively. Discussion of the reasons and implications of this proposal will bring to light further facts about verbs, objects and direct and indirect causation.

In positing two predicates we immediately reject Lee's proposals (Lee, 1971a) which involves treating the verb with

Agent subjects as simplex, and the verb with Forces as subject as the lexicalisation of the structure containing CAUSE plus another predicate. As already shown, there are inadequacies with his treatment on the semantic level. Moreover, he admits himself that he cannot account for the intuitively felt relationship between, for example, cause to die and kill (Lee, op. cit.: 113). In his conclusion, Lee suggests that the problems with his analysis may be helped if he posited a further predicate which he represents as AGENTIZE, although he makes no more explicit proposals. He observes that if kill is not decomposable with an Agent subject, then he cannot explain why all by-clauses are essentially the same. Thus without lexical decomposition, it becomes a mere coincidence that by occurs with method and causative by-clauses, that they are both treated as manner adverbials and that they occur in the same sentence positions.

If we do have two predicates DO and CAUSE, then we might expect there to be some systematic relations between them and the surface forms do and cause. Thus we might consider what facts we are associating with these predicates and see if the same is also true of the occurring surface forms. By setting up the predicate DO we wish to account for the correlations between Agents, direct objects or Patients, Benefactives and expressions of purpose. Thus we allow DO to take as dependent elements Agents, Patients, Benefactives and purpose expressions while CAUSE does not. These correlations are also true of the surface verb do but



not of cause.

(a) agents.

168a. ?John caused his horse to mount a knoll

b. John made his horse mount a knoll

that is, cause does not readily take Agents as subject: such sentences seem to have a slightly stilted or archaic feel about them.

(b) direct objects are marked by to (see 3.2.3. above).

Thus while it is odd to ask 169a, 169b is acceptable:

169a. \*What did <sup>you</sup> your efforts cause to him?

169b. What did you do to him?

(c) Purpose: do will allow Benefactives and purpose expressions while cause will not.

170. John <sup>did</sup> it for Mary  
      \*caused

However, it seems that we need to modify the claim that DO and CAUSE take Agents and Forces respectively, since we find such sentences as:

171a. What the bullet did was smash John's collar-bone

b. What did the bullet do to John?

Thus we find a Force occurring as the subject of the surface verb do, which disconfirms our claim. As we shall see below (see Chapter 4), the difference between DO and CAUSE is better handled in terms of direct and indirect causation, in which case the above sentences are not counter-examples since they involve direct causation. However, we shall need to modify the treatment of DO (see below Chapter 4).

Of greater interest are the implications of DO and CAUSE

for the form of the grammar. If such a position is to be held, then we need to show that the arguments found in the literature against Lexical Decomposition are not valid. In fact, we shall try to show that such arguments not only do not refute Lexical Decomposition but, in general, are a source of data which can be seen <sup>as</sup> ~~are~~ strengthening and extending the hypothesis. We shall survey the arguments in chronological order and see what implications each might have for our discussion of direct and indirect causation.

(a) Fodor

Fodor (Fodor, 1970) seems to be the first to question the general validity of the Lexical Decomposition Hypothesis on the basis of syntactic arguments. We deal below with the general outlines of his arguments which bear directly on our concerns: for a discussion of his article and its more general implications see Bedell (Bedell, 1974). Fodor raises three arguments which are "fairly decisive against the transformational analysis of verbs like melt and kill" (Fodor, op. cit.: 437). The form of the arguments is essentially dependent on counter-examples and the crucial part of the argument, i.e. the careful working-out of all the implications of the counter-examples to show that no form of the initial hypothesis is tenable, is lacking in each case. We wish to show that such an endeavour leads to the conclusion that the transformational analysis is possible and useful in the description of English.

The first argument is directed at the analysis proposed for kill rather than melt, since it does not apply to this

latter verb, a point which Fodor does not consider, and depends on the do so-transformation. Fodor observes, following Lakoff (Lakoff, 1970) who first proposed the transformational analysis, that 172a and 172b are acceptable:

172a. John caused Mary to die and it surprised me that she did so

b. John caused Mary to die and it surprised me that he did so

which would be expected if cause Mary to die in 162b and to die are constituents of the deep structure which can serve as controllers for the do so-transformation. However, under the transformational analysis, the same two strings will be constituents of the underlying structure and are thus available to serve as controllers of the transformation. However, 173a is unacceptable

173a. \*John killed Mary and it surprised me that she did so

b. John killed Mary and it surprised me that he did so

The unacceptability of 173a. Fodor takes to be evidence that there is no constituent to die in its underlying structure.

The argument is not fully satisfactory, since not only does Fodor not go on to show that there is no way of saving the hypothesis but he omits to consider the full implications of the sentence with melt. Thus corresponding to 173a and 173b we have:

174a. John melted the glass and it surprised me that it did so

b. John melted the glass and it surprised me that he did so



Here the acceptability of 174a suggest that there is a constituent to melt in the underlying structure which can serve as controller. Lakoff and Ross (Lakoff and Ross, 1972) and following them Eisenberg (Eisenberg, 1973) who provides more data, argue that the difference in acceptability is due to the surface structure identity of the transitive and intransitive verb melt which makes 174a acceptable, while 173a is unacceptable since die and kill differ. Thus it is a question of recoverability of underlying structure, with melt it is readily recovered, but this is not the case with kill.

Fodor's second argument depends on the non-acceptability of sentences like 175b as opposed to the acceptable 175a:

175a. John caused the glass to melt on Sunday by heating it on Saturday

b. \*John melted the glass on Sunday by heating it on Saturday

Under the transformational analysis both sentences have the same underlying structure. Fodor rightly observes that, to uphold the transformationalist analysis, "something will have to be done to prevent the transformation (i.e. predicate-raising) from acting on 18 (our 175a) to produce 19 (our 175b)" (Fodor, op. cit.: 432) and suggests that if this is done in terms of "adverb matching", we would be dealing with a condition on transformations which is without precedent.

Counter-argument by appeal to the lack of precedent within the theory is itself a dubious tactic, since it depends on the prior assumption that the theory is not open

to question and modification, that it is perfectly adequate. However, if such a tactic were admissible, Fodor's use of it is not detrimental to Lexical Decomposition. His suggested solution is essentially that proposed by Fillmore (Fillmore, 1971a see also Seuren, 1974). Thus in 175a we are dealing with separate events, each of which has its own time and place while being linked by a causal connection. "If either of the clauses designating these two separate events has its own time and place co-ordinates specified, by being separately embedded to occur, the conflation is not possible" (Fillmore, op. cit.: 50). However, conflation is possible if "the event-chain sentence is left intact and embedded as a whole to the higher verb which assigns location in space and time". Thus Predicate-Raising could be blocked by only allowing Raising of a verb into the immediately dominating predication. The occurrence of an OCCUR-predication in 175b will block this Raising to produce the transitive verb. We shall return to this suggestion below to see how it can be made more precise (see Chapter 4).

Fodor's third argument depends on the necessary co-reference of the subject of an instrumental manner adverb with some higher subject. Thus, in accord with the transformational analysis, 176a is acceptable:

176a. John caused Bill to die by swallowing his tongue that is, the one who swallows the tongue can be either John or Bill since both appear as subject of a sentence. However, the transformational analysis predicts the same ambiguity for 176b

176b. John killed Bill by swallowing his tongue  
and this is not the case, since only John can be understood  
as the subject of the manner adverbial. From this, Fodor  
concludes that Bill is not the subject of any verb in the  
deep structure of 176b. All that it really shows is that  
at the point where the subject of the manner adverb is  
deleted Bill is not a subject: it does not show that it was  
never a subject.

Fodor suggests that we might be able to save the  
situation if we add a constraint to Predicate-Raising such  
that it is blocked if the embedded verb is modified by an  
instrumental adverb. Notice that such a constraint would  
generalise to the situation described in the second argument  
to avoid the necessity of introducing the OCCUR-predication,  
that is, Predicate-Raising is blocked if the verb is  
modified by an adverb. This point Fodor fails to notice.  
Fodor points out that such a constraint cannot be a "wholesale  
prohibition against Predicate-Raising modified embedded  
verbs" (Fodor, op. cit.: 436) since it would also block the  
derivation of 177a from 177b:

177a. John cooked the meat slowly

b. John caused the meat to cook slowly

and 177a does have the two readings predicted. Notice that,  
in fact, the example could be explained by Lakoff and Ross'  
proposals (Lakoff and Ross, op. cit.), in that the transitive  
and intransitive verbs are morphologically identical.

We can begin to give a fuller answer to Fodor's



counter-arguments to the Lexical Decomposition hypothesis by referring back to the constraint on the subject of instrumental adverbs, namely that they must be co-referential with a higher subject. This will show also why it is that Miller (Miller, 1972a) suggests that "a more subtle analysis in terms of 'direct' and 'indirect' causation is required". This in conjunction with Lakoff and Ross' proposals will allow us to account for the counter-examples in a manner which is consonant with Fodor's own proposals and with those of Fillmore.

In fact, to claim that the subject of an instrumental adverbial must be co-referential with another subject is a weak form of the constraint. We have seen that the underlying subject of a method by-clause must be an Agent, just as the subject of the higher clause is an Agent (see our discussion of Lee above 3.1.6.). In these terms let us look again at 176b above.

The by-clause is the method used by the Agent John and the subject i.e. Agent of the action, of the embedded clause is also John. Further the sentence describes direct causation. In the corresponding decomposed form 176a, the by-clause either marks the cause of Bill's death or it is a true method clause. In the former case we have two possibilities, either John swallowed the tongue or Bill did: in the former case the structure could also surface as

178. John's swallowing his tongue caused Bill to die so that in this case the by-clause in 176a would be a causative clause and would modify cause: if Bill does the

swallowing then the by-clause is again causative but now modifies die. In this case we have indirect causation, the Agent subject of the matrix sentence not being co-referential with the subject of the by-clause and thus not acting directly on Bill. Thus again we find the notion of intervening Agent or Cause relevant to direct causation. Such an intervening Agent or Cause blocks the contiguity of the two events so that they cannot be treated as one complex event. Likewise having different temporal or locative adverbs blocks contiguity of events so that we have two simplex events in 175a.

As they stand the proposals are vague and inexplicit, but we shall be able to make more concrete suggestions when we have considered the arguments which Shibatani (Shibatani, 1972, 1973a, 1973b) uses against Decomposition and a more detailed treatment will be made in the next chapter. However, the general trend of the above suggestions is that Predicate-Raising should be blocked just in case the Agents of the matrix sentence and the by-clause are not co-referential and the temporal and locative adverbs modifying the two events are not identical.

(b) Shibatani

Shibatani (Shibatani, 1973a) first makes some observations on causative constructions in Japanese. He firstly observes that in sentences like:

179. Taroo ga Ziroo o hasir-ase-ta

'Taroo caused Ziroo to run'

180. Taroo ga Ziroo o tomar-sase-ta

'Taroo caused Ziroo to stop'

(where -sase and -ase are the causative suffixes) the subject of the embedded sentence must be something with its own volition, that is essentially an Agent. Thus a sentence with enzin "engine" or razio "radio" as subject of the embedded sentence is unacceptable:

181. \*Taroo ga <sup>enzin</sup> o tomar-sase-ta  
                  razio

'Taroo caused the <sup>engine</sup>  
                                  radio to stop'

However, these sentences can be acceptable if they are understood as meaning that the Agent used some unnatural means to stop the engine. Thus in both cases we have some intervening entity between the Agent's causing an event and the occurrence of the event, in the first case we have some other Agent, in the second we have some intervening entity between the Agent's causing an event and the occurrence of the event, in the first case we have some other Agent, in the second we have some non-natural method. It is interesting to note that other verbs which can appear in the embedded sentence which would not be classified as asserting volition of their subjects are verbs like "bloom", "rot", "shine", "die", which in the Indo-European languages were translated as middle verbs and Shibatani characterises these verbs as being ones whose subject "has the potential to initiate the process", alternatively the process does not take place outside the subject's sphere, it is located within it.

Secondly, the subject of the embedded sentence cannot be co-referential with the subject of the higher causative:



182. \*Taroo ga zibun o aruk-ase-ta

'Taroo caused himself to walk'

(where zibun is the reflexive pronoun). This would be compatible with our suggestion above that Predicate-Raising is dependent on identity of the two Agents. In such circumstances its application is obligatory, and 182 is unacceptable since it has not applied. Thirdly, Shibatani observes that there are two possible markers for the subject of the embedded sentence, o and ni:

183. Taroo ga Ziroo <sup>o</sup><sub>ni</sub> ik-ase-ta

'Taroo caused Ziroo to go'

The o-causative involves more direct, "coercive" causation than the ni-causative

184. Taroo ga tegami de sizi o s-i-te Ziroo <sup>\*o</sup><sub>ni</sub> Tokyo  
e ik-ase-ta

Taroo SM (by instructing him by letter) Ziroo OM  
Tokyo to cause-go-past

'Taroo caused Ziroo to go to Tokyo by instructing  
him to by letter'

Thus, when the causation is indirect, as in letter-writing, ni is the acceptable form. The reverse holds with adverbs like "forcibly" which imply direct causation and require the o-causative. Soga (Soga, 1970) characterises the difference between the two causatives in terms of the intentions of the embedded subject, which is in keeping with Shibatani's comment that the relevant point seems to be that in the ni-causative the person operated on performs some action, while in the o-causative he is "in the state of being a patient" (Shibatani, op. cit.: 354). But, notice that again

we have a distinct Agent in the embedded sentence and Predicate-Raising does not apply. Moreover, if it is the case that Predicate-Raising is blocked if the two Agents are not co-referential, then we would expect that there will be no sentence with a lexical causative, itself the result of Predicate-Raising, where the object or Patient of the action is marked with ni and this is, in fact, the case:

185. Taroo ga Ziroo <sup>\*ni</sup><sub>o</sub> tome-ta  
 'Taroo stopped Ziroo'

Shibatani concludes that the transformational analysis cannot be accepted since restriction would be needed on the rule of Predicate-Raising, but he does not frame these restrictions in terms of identity of Agents, which does provide the necessary unifying principle.

Other arguments which Shibatani brings against the Lexical Decomposition hypothesis depend on the presence of some ambiguity in the affixal causative (what he calls the "productive" causative) which is not present in the corresponding "lexical" causative. The first piece of evidence comes from the behaviour of soo su-ru "do so". Thus in 186:

186. Taroo ga Ziroo o tomar-are-ru to Hanako mo soo  
 s-i-ta

'When Taroo made Ziroo stop, Hanako did so too'

soo s-i-ta means either that Hanako also made Ziroo stop, or that Hanako also stopped. A similar ambiguity, based on the fact that there are two Agentive clauses which can function as controller in the underlying structure, is to be found with the following:

187. Boku wa musuko o gakkoo ni nokor-sase-ta, Hanako mo  
 see su-ta  
 I son school at stay-cause-past

'I made my son stay at school, and so did Hanako'

188. Boku wa musuko o heya ni hair-sase-ta, suruto  
 Hanako mo soo su-ta

'I made my son enter the room, and so did Hanako'

However, in sentences which contain lexical causatives like:

189. Taroo ga Ziroo o tome-ru to Hanako mo soo s-i-ta

'When Taroo stopped Ziroo, Hanako did so too'

soo s-i-ta can only mean that Hanako stopped Ziroo also.

Likewise there is only one reading for:

190. Boku wa musuko o gakkoo ni nokos-ta, suruto Hanako  
 mo soo su-ta

'I left my son at school and so did Hanako'

Shibatani says that such sentences argue against an embedded structure in lexical causatives, since otherwise this embedded structure would be available as the controller of the Japanese form of the do so-transformation of English. However, the data would be consistent with any analysis which requires that Predicate-Raising be blocked if the two Agents are not identical. In 186 we have two Agents and thus two Agentive verbs and these Agents are not identical. Thus the sentence is ambiguous since there are two underlying Agents to which the do-so-transformation may apply. However, in 189 there is no Agent in the embedded sentence, thus there is also no Agentive verb and no controller for the do-so-transformation. Since the embedded sentence does not contain an Agent, Predicate-Raising can apply to produce 189. This will account for the lack of ambiguity.



Shibatani's argument is not conclusive and the data equally supports our suggestions in terms of identity of Agents.

A second argument depends on the syntactic properties of the Japanese reflexive pronoun zibun which combined with the possessive affix no means "one's own". The Japanese reflexive must be commanded by a subject, so that there is no ambiguity in the following sentence:

191. Boku wa Taroo ni zibun no hon o yar-ta

'I gave Taroo my book'

There is only one subject and so only one possible owner of the book. With affixal causatives we would expect there to be an ambiguity with respect to the reference of zibun if there is an embedded sentence with a subject:

192. Taroo ga Hanako o zibun no heya ni hair-ase-ta

'Taroo made Hanako go into his/her room'

Thus both Taroo and Hanako were subjects at some point so that they could control zibun. However, with the lexical causative corresponding to 192 then Hanako can only go into Taroo's room:

193. Taroo ga Hanako o zibun no heya ni ire-ta

'Taroo put Hanako into <sup>his</sup><sub>\*her</sub> own room'

From this Shibatani concludes there is no underlying sentence in 193 which has Hanako as subject. However, the data merely shows that at the point where reflexivisation takes place there is no sentence containing Hanako as subject, it does not show there is never such a sentence in the underlying structure.

Shibatani constructs a similar argument based on the

lack of ambiguity of lexical causatives with adverbials.

Thus, as one example, consider the adverb isoi-de "hastily":

194. Taroo wa Ziroo o isoi-de tomar-sase-ta

for which Shibatani gives the following translations:

195a. Taroo hastily made Ziroo stop

b. Taroo made Ziroo stop hastily

However, for the corresponding lexical causative

196. Taroo wa Ziroo o isoi-de tome-ta

'Taroo stopped Ziroo hastily'

the adverb relates to Taroo's action and not to Ziroo's subsequent stopping. Again there seems to be no reason why such facts should not be interpreted in the same way as the other arguments which Shibatani brings against Lexical Decomposition. Thus "hastily" is an adverb modifying an Agentive verb, i.e. one taking an Agent as subject. In 194 we have two such Agentive verbs and thus a possible ambiguity; in 196 we have only one Agentive verb and thus only one possible element which the adverb can modify. Further since the lower sentence does not contain an Agent, Predicate-Raising applies automatically to produce the lexical causative.

In a later work (Shibatani, 1973b), Shibatani takes examples based on the same presence versus absence of ambiguity from Korean and the same counter-arguments are possible, namely that the relevant facts can be explained in terms of the restriction on the rule of Predicate-Raising if there are two non-co-referential Agents. In this way we can account for the application of the rule when the Agents



are co-referential (see example 182 above) and when there is no Agent in the embedded sentence. Thus, there is evidence from English and Japanese which suggests that Lexical Decomposition can be saved from the counter-examples adduced by Fodor and Shibatani. The situation is strengthened by the fact that this will be done in essentially the same fashion for the examples from both languages.

A further point is that our suggestion in terms of identity of Agents would help to account for the observations that lexical causatives and affixal or productive causatives differ with regard to direct and indirect causation (Miller, 1972a) and with regard to proximity versus non-proximity of the cause and effect (Fillmore, 1971a, Haas, 1973, Kastovsky, 1973). We shall return to these proposals to see how they may be given concrete realisation in the grammar below (see Chapter 4).

Before finishing our discussion of Shibatani's counter-arguments, two points should be made. Firstly, McCawley (McCawley, 1972) had noted that a restriction on Predicate-Raising in terms of non-identity of Agents would save the rule from many of the counter-arguments. Secondly, in a more recent work (Shibatani, 1975) Shibatani notes that making Predicate-Raising a pre-cyclic rule will also account for his counter-arguments (for more on this position see Newmeyer, 1974 and Aissen, 1974).

(c) Two counter-arguments: one reply

One counter-argument which is common to much of the opposition to Lexical Decomposition concerns the non-synonymy



of show and cause to see in certain circumstances, a non-synonymy which cannot be accounted for if there is the same underlying structure for both. Haas (Haas, 1973) notes that the following "has an air of paradox":

197. Not realising that Bill was blind, I showed him  
the pictures

but it is "not nearly so bad as I caused him to see the pictures" (Haas, op. cit.: 290). A similar situation holds with the following sentences:

198. John showed Bill the pictures so fast that he  
couldn't see them

199. \*John caused Bill to see the pictures so fast  
that he couldn't see them

However, such sentences could be used to argue against the inadequacy of the CAUSE SEE analysis of show rather than the inadequacy of Lexical Decomposition itself. The major point that needs to be taken into consideration is that we need to distinguish between activities and accomplishments (see Vendler 1967 and discussion above (3.2.4.)). Thus in 197 and 198 we are dealing with activities, and an activity does not entail that there is any goal attained, so that John can show pictures without any successful seeing by a second party.

Krishnamurti (Krishnamurti, 1971) reports that Lakshmi Bai (Lakshmi Bai, 1970) uses the same form of argument based on facts from Indian languages: thus the following sentence is taken to show that "feed" cannot be equated with CAUSE EAT:

200. Mane bacceko khana khilaya, phir bacca nahi khaya

'The mother fed the child, but the child did not eat'

Krishnamurti replies to this argument in essentially the same terms as used above, but instead of activity he talks of "agent orientation" and instead of accomplishment he uses "object orientation". Thus we can relate these facts to a distinction which Vendler makes on independent grounds. Thus we can distinguish between two types of structure, one containing an activity predication and a dependent predication of purpose, i.e. DO in order that X SEES and the accomplishment predication which expresses a causal relation between an activity and a result of X SEEING. We give more concrete expression to these ideas below (see Chapter 4).

The second argument against Lexical Decomposition which can be answered in essentially the same way is found in Kac's paper on action and result (Kac, 1972). Notice that Kac's terms "action" and "result" refer to the same phenomena as activity versus accomplishment and agent versus object orientation. In fact, Kac argues that the very fact that we need to make this distinction constitutes a good argument against Lexical Decomposition.

Kac begins by observing that the following sentence is not three-ways ambiguous as claimed by Morgan and McCawley (Morgan, 1969, McCawley, 1971)

201. John almost killed Bill

Kac claims that his informants only detect the ambiguity between the reading on which John almost did something which counts as an act of killing and on which John actually did something but that act did not count as a successful killing of Bill. The contested three-way ambiguity of 201 is used

by Morgan and McCawley to support the presence of three predications in the underlying structure of the sentence, so that either CAUSE, BECOME or BE can be modified by the adverb almost. Kac's informants do not detect the ambiguity between the sentence where almost modifies BECOME and where it modifies BE. However, there is still the two-way ambiguity to be explained. Before considering Kac's further study of this, there is a related point to be made: some speakers do detect a three-way ambiguity, but one which does not tally with the structure proposed, rather it better corroborates McCawley's modified structure (McCawley, 1972) which contains a DO-predication above the CAUSE-predication. Thus there are the possible readings (i) John almost did something, (ii) John did something e.g. threw a brick at Bill but did not affect Bill, the stone missed (iii) John did something which did affect Bill but did not kill him, i.e. the stone only severely wounded him. Kac does not discuss such ambiguities: granted his informants did not recognise them, but there is still the problem of what to do about those speakers who do recognise them.

Returning to Kac's discussion, if there is an ambiguity in 201, then it seems to be the case that it is not always present and it is not present at all with the verb murder:

202. John almost murdered Fred

203. John fired the bullet at Fred, coming so close  
that he almost **killed** him  
                                  \*~~murdered~~

204. The bullet almost killed Fred

Of 203 Kac observes: "There is no obvious principle that



would suggest that the presence of additional information about premeditation, however represented, ought to affect the scope possibilities of almost" (Kac, op. cit.: 120). However, this is just not the case: there is an obvious principle, based on the fact that premeditation is involved, i.e. we have an Agent. We have already noted that with a Force as subject a verb can only have an accomplishment reading, while with an Agent it can have either an accomplishment or activity reading, (see 3.2.4. above). Thus with an Agent as subject, almost can modify either the activity predication or the accomplishment predication, but with a Force it can only modify the accomplishment predication, thus explaining the non-ambiguity of 204. Sentence 203 is slightly different, since here we are dealing with a verb which requires an Agent acting intentionally:

205. \*The bullet murdered Bill

206. ?John accidentally murdered Bill

Thus 203 is unacceptable with murder since it requires an Agent and is thus an Activity or Accomplishment verb. Kac introduces the "action-result dichotomy" (Kac, op. cit.: 121) to account for the distinction, but this, in fact, corresponds to Vendler's activity-accomplishment terms. However, our analysis above differs from that of Kac's in characterising the distinction in terms of Agents and Forces, which is linked to the activity-accomplishment distinction. Kac is in favour of marking verbs in the lexicon as +Result or +Action and "interpreting almost-V strings according to the way in which V is specified" (Kac, op. cit.: 121).

Notice that having only the two features, there is no accounting for those speakers who find a three-way ambiguity in sentences like 201.

However, the disturbing fact about Kac's paper is the conclusion which he draws from the action-result, activity-accomplishment distinction, since he asserts that the ambiguity of:

207. It surprised me that John killed Bill  
 "has no accounting whatsoever in the cause-to-become-not-alive analysis, since there is no element like almost whose scope can vary". Leaving aside the question of whether this sentence is, in fact, ambiguous between the reading on which the surprise is caused by John's doing such a thing and that on which it is caused by Bill's death, an ambiguity which some speakers do not detect, Kac's form of argumentation is not convincing: thus while Fodor's style of argument is argument-by-counter-examples without showing that all the implications of the counter-example are unacceptable, Kac's form of argument is difficulties and counter-examples in current practice imply that the treatment is impossible in principle. That is, while the current proposals for the treatment of causatives may find 207 problematical, this by no means entails that no transformational treatment of 207 is possible which gives a well-motivated analysis. In fact, we already have the beginnings of such a reply, since if it is the case, as Kac claims, that the ambiguity is predicted by the action-result analysis, then it should also be the case that the

corresponding activity-accomplishment analysis, which is formulatable in a transformational analysis, also predicts the ambiguity.

There still remains the question of the difference between a predication analysis and the feature analysis of Kac, that is, is it the case that they are notational variants? As McCawley in his reply to Kac remarks (McCawley, 1972) Kac makes use of features whose status in Linguistic Theory has never been made certain. However, a feature analysis must, by its very nature, treat as unrelated facts the marking of the verb as optionally +Result, the fact that it has certain characteristics all of which it shares with the verb cause and the marking of this latter verb as +Result. A generalisation can be captured in a non-arbitrary fashion by removing the feature and deriving all those verbs formerly marked as +Result from a structure containing CAUSE: all the characteristics formerly attributed to +Result will now be attributed to CAUSE.

Thus again the supposed arguments against Lexical Decomposition are not arguments against the principle of Lexical Decomposition. Rather they serve to show the inadequacies of current proposals and thus serve as means of strengthening our earlier claims. It is not the case that Lexical Decomposition has so far been shown to be unacceptable in any form.

(d) Cruse

Cruse (Cruse, 1972) makes a two-pronged attack on the



hypothesis of Lexical Decomposition, in that firstly he shows that there are systematic differences between "covert" causatives i.e. kill, melt, break etc. and the "overt" causatives with the lexical item cause and secondly he tries to show that the causative analysis of teach is untenable. We shall take these two arguments in this order and show how they are inconclusive as an attempt to refute Lexical Decomposition.

The non-synonymy of overt and covert causatives may not be itself an argument against Lexical Decomposition, rather, as we have already suggested for other cases, it may merely show that current formulations are at fault. Cruse observes that the differences in meaning "seem to correlate with certain semantic features carried by the surface object of the covert causative" (Cruse, op. cit.: 521). He treats causatives in three categories. Firstly he considers cases where the object of the causative is agentive, as in:

208. John galloped the horse around the field

209. John marched the men round the yard

210. John worked the men hard

All these sentences involve a similar type of causation, which involves a human being who "transmits his will to an obedient, but independent agent" (Cruse, op. cit.: 521). He further notes that if any of the four conditions on the covert causative is not fulfilled, then the covert causative is unacceptable whereas the overt causative is not:

(1) the causer must be human

211. \*The flood marched the men further north

212. The flood caused the men to march further north

(ii) the transmission of the will of the causer must be effective

213. ?John marched the men, who did not understand his orders, across the yard

214. John caused the men, who did not understand his orders, to march across the yard

(iii) the object must be obedient

215. \*John galloped the horse, which was totally unresponsive to his commands, across the field

216. John caused the horse, which was totally unresponsive to his commands to gallop across the field

Cruse does not note that if 215 were acceptable it would not necessarily mean the same as 216, the former involves John actually riding the horse while the latter does not.

(iv) the object must be an agent

217. \*John flew the sparks

218. John caused the sparks to fly

Cruse characterises this first type of causation as "causation by command".

A second type of causation, which Cruse calls "causation by direct action", is found with verbs like move, break, melt, turn etc. where the surface Agent must operate directly on the object and in terms of this he explains the unacceptability of the covert causative with objects like reflection:

219a. \*John moved the reflection

b. John caused the reflection to move

220a. \*John turned the shadow

b. John caused the shadow to move

since such entities are not susceptible to direct manipulation. He goes on to make the same point that we made with regard to the further characterisation of direct causation in terms of the lack of an intervening Agent. Thus 221a and 222a are unacceptable with covert causatives while their overt causative counter-parts are perfectly acceptable since there is an intervening Agent:

221a. \*John opened the door by persuading Bill to turn the handle and push

b. John brought it about that the door opened by persuading Bill to turn the handle and push

222a. \*John opened all the doors in the street by shouting "Fire".

b. John brought it about that all the doors opened in the street by shouting "Fire"

However, speakers of English do seem to accept 221a and 222a if it is the case that John wished to open the door or doors and deliberately chose this means of doing it, that is, the action described in the by-clause must be goal-orientated.

Cruse's third category seems to belong rather to the second mentioned above, but he describes it in terms of the relation between the covert causative and the corresponding "(surface) intransitive verbs", namely there is no single lexical item which functions as an intransitive verb, rather it is of the form become + Adjective, e.g. annoy-become annoyed, anger-become angry, frighten-become frightened etc. Again, the overt and covert causatives are not synonymous according to Cruse:



223a. John frightened Mary by giving her an injection of a new drug

b. John caused Mary to become afraid by giving her an injection of a new drug

224a. John annoyed Mary by giving her an injection of the new drug

b. John caused Mary to become annoyed by giving her an injection of the new drug

The difference between 223a and 223b lies in what actually causes the fear, in the former it is the action of giving an injection which is the cause, while in the latter it is the property of the drug as a fear-inducing drug which elicits the fear. Although Cruse wishes to treat this as an independent category on the grounds that it involves neither "causation by command" nor "causation by direct physical action" and should therefore be termed "causation of emotion", two facts argue for including this type in the category of direct action. Notice that just as 222a is unacceptable under certain circumstances since there is an intervening Agent, so 223a and 224a are understood as direct causation. 222b does, however, involve an intervening Agent and is an overt causative, just as 223b and 224b are overt causatives and involve an intervening Agent or Force, namely the drug which actually causes the fear or annoyance. Secondly, just as 222a is acceptable if John chooses this particular method to achieve his ends, 223a is also acceptable if we interpret it as describing a situation in which John wishes to make Mary afraid and chooses to do this by administering a drug with the required properties. Thus verbs of causation of Cruse's third

category appear to behave just as they would if they were verbs of the second category.

Thus, believing that he has set up three categories of causation, Cruse observes that we could not save Lexical Decomposition by positing an abstract predicate CAUSE and claiming that it differs from cause "in whatever ways are necessary to account for the differences between overt and covert causatives" (for a similar argument see Partee, 1971), since "our results so far have shown that at least three distinct abstract elements CAUSE would be necessary - to account, that is, for causation by command, causation by direct physical action and causation of emotion". (Cruse, op. cit.: 523-4). However, he has not shown firstly that there are three types of causation since we have seen that the third category belongs with the second and secondly he has not shown that there "three distinct abstract elements CAUSE" since all the factors which he has noted can more easily be associated with other elements of the sentence rather than with the predicate CAUSE itself. Thus the second category will involve reference to the notion of intervening Agent and the first will involve reference to the Agent of the matrix sentence and the Agent of the embedded fulfilling certain conditions.

One solution is suggested by the terms which Cruse uses himself, "causation by command" and "causation by direct physical action". Each suggest some basic predicate CAUSE and a by-clause. Thus the first category could be handled by positing a deep structure with at some point a by-clause



containing order. This would be supported by the fact that all the conditions which affect the acceptability of the covert causatives of the first group also affect the acceptability of the verb order. In this way we can simplify the grammar by stating the constraints once with respect to order, and the fact that they also hold for other verbs will be a result of their containing order in their underlying structure. Thus an inanimate object cannot give an order, neither can an inanimate object receive an order: further for someone to obey an order he must firstly be able to understand it and secondly be in such a position that he will carry it out. As we might expect, then, the following corresponding to 212, 214, 216 and 218 are unacceptable:

212a. \*The flood caused the men to march further north, by ordering them to

214a. \*John caused the men, who did not understand his orders, to march across the yard by ordering them to

216a. \*John caused the men, who were being totally unresponsive to his orders, to march across the yard by ordering them to

218a. \*John caused the sparks to fly by ordering them to

Under Cruse's interpretation, these are merely accidental facts about English such that the restrictions have to be stated twice.

The first part of Cruse's paper, then, does not provide a conclusive argument against Lexical Decomposition: the same is also true of the second argument which purports to show that "teach must occur as an element of deep structure".



Cruse reaches this conclusion on the basis that his analyses of the four verbs teach (i.e. four differing underlying structures) "completely miss what is felt to be common to the various meanings of teach, and furthermore, they fail to formalise our intuition that the various meanings belong naturally together" (Cruse, op. cit.: 528). However, there is a second conclusion which may be drawn on the basis of the passage quoted above, namely that the supposed four underlying structures which Cruse argues for are themselves inadequate.

The first verb teach, according to Cruse, has a deep structure under the transformationalist analysis which may be represented as 225:

225. John CAUSE ((Bill can ride a bike) BECOME)  
which supposedly surfaces as

226. John taught Bill to ride a bike  
although CAUSE BECOME CAN seems to be a more obvious candidate as the underlying structure of enable. The argument for 225 is difficult to reconstruct. His starting-point is that teach, its corresponding stative know and the inchoative learn are polysemous. Thus 227

227. Bill knew how to ride a bike  
is ambiguous and one of the readings of this sentence is "practically synonymous" with can. Further the two readings of 227 have different causatives:

228a. John taught Bill how to ride a bike

b. John told Bill how to ride a bike

and only 228a entails that Bill can ride a bike. He further

relates the two meanings of know to the distinction between "knowing how" and "knowing that". From this he concludes that 225 is the deep structure of 226, a conclusion without any clear argument. However, it becomes clearer if we return to the activity-accomplishment distinction. 226 is ambiguous between the activity and accomplishment reading, on the one hand John can give Bill knowledge of how to ride a bike without Bill acquiring the skill, or alternatively Bill can acquire the skill as a result of John's action. Thus we might analyse the two readings of 226 (which notice that Cruse does not explicitly acknowledge or account for) as:

229a. John gave Bill knowledge of how to ride a bike

b. John's giving knowledge of how to ride a bike  
to Bill CAUSE him to know how to ride a bike

Thus we can analyse this verb teach as having the underlying structure GIVE KNOWLEDGE.

The second verb teach can be paraphrased, according to Cruse, as "inculcate a habit" which he exemplifies with

230. John taught Bill always to be polite to his  
elders

230 entails that Bill learnt to be polite to his elders but Cruse claims that it does not entail 231

231. Bill knew always to be polite to his elders  
since this contains "an element of deliberate calculation" (Cruse, op. cit.: 525). However, 230 also entails 232:

232. Bill was always polite to his elders

Unfortunately this is not always the case: thus 230 can be an activity or an accomplishment and even if John's teaching

was successful there are still likely to be cases where Bill's competence in being polite is interfered with by performance factors, so that the entailments are not absolute. The argument depends on the lack of entailment of 231: since 230 does not entail 231, then there can be no element KNOW in the deep structure, or at least this appears to be the logic of the argument. However, the argument does not go through for a large number of speakers, in that for them 230 does entail 231 and there is no element of calculation at all. Further the structure is inadequate in that it does not capture the fact that in 230 John is imparting knowledge of a skill or habit, something which is captured by a structure like GIVE KNOWLEDGE.

The third verb teach may be paraphrased as "impart knowledge" and Cruse gives the example

233. John taught Bill the names of the flowers  
which entails

234. Bill learned the names of the flowers

235. Bill knew the names of the flowers

Notice that this is only true on the accomplishment reading of the sentence. Cruse also observes that 234 and 235 are also entailed by 236

236. John told Bill the names of the flowers

Unfortunately it is difficult to see why he goes further than the entailments of 233 and introduces 236 at all, since he has already the basis for a possible structure, namely GIVE KNOWLEDGE.

However, he proceeds, in a manner which confuses the entailment



of a sentence with the entailments of the sentence which expresses the first entailment, to note that while 234 is ambiguous between learning by being told, according to Cruse, 235 is not ambiguous in this way. Cruse suggests then that we should handle the supposed difference between the two i.e. 233 and 236 by positing as the underlying structure of 233

237. John CAUSE ((Bill remember the names of the flowers) BECOME)

since 233 implies that Bill retained the knowledge, while 236 only implies "knowledge at the instant of telling". However, if this were the case, 238 should be acceptable, since it involves "knowledge at the instant of telling":

238. John taught Bill the names of the flowers but he forgot them immediately

Notice further that, since Cruse does not give a structure for tell, we cannot be certain that 237 actually is the required structure of 233 to distinguish it from 236. The argument as a whole is unconvincing, since Cruse omits to take into account the activity-accomplishment distinction and does not show precisely why we need to go beyond the analysis of teach as GIVE KNOWLEDGE.

The fourth verb teach is to be paraphrased as "impart a belief", as in

239. John taught Bill that honesty was the best policy and Cruse claims that this entails that Bill came to believe that honesty was the best policy. Again the facts contradict Cruse, in that the following are perfectly acceptable:

240. John taught Bill that honesty was the best policy, but he laughed in his face and went out and robbed the local Post Office

241. John taught Bill that interpretive semantics is bankrupt, but he did not believe him and to this day talks of co-reference tables

In fact, Cruse's manner of argument is at fault here.

There is no reason to talk of belief in this situation at all. If it is the case that John accomplished an act of teaching, then it is the case that Bill knows something and from this it follows that Bill also believes that something is the case: that is, to give the following

242. John CAUSE ((Bill believe that honesty is the best policy) BECOME)

as the deep structure of 239 is to ignore the fact that Bill knows something. The same form of argument would lead us to the claim that:

243. John's aunt Agatha died  
is ambiguous: that is, if someone is dead, then it is the case that that person is either buried, cremated or about to be buried or cremated. Thus we have the possibility of four different deep structures for 243, if we use Cruse's method of argumentation.

Thus there seems to be no reason to believe that Cruse's analysis of the "four" verbs teach has any validity, rather they point to the fact that there is an element in common to each which we may characterise in terms of the passage of knowledge from a teacher to a learner and the actual nature of that knowledge, a skill, habit, names of something is not of relevance to the deep structure set up for the verb teach.

In conclusion to this section on the predicates DO and

CAUSE and their implications, we may say that there are no conclusive arguments in the literature against Lexical Decomposition and the rule of Predicate-Raising, rather the arguments can be seen as criticisms of the current embodiments of this hypothesis and not as full arguments against any form of the hypothesis. Thus they have served to throw light on the causative analysis of sentences containing overt and covert causatives. In the next chapter we shall turn to an elaboration of the insights gained and show how they can be captured in the grammar.

### 3.3. Instruments

The question of instrumentality and its expression is too complex to deal with adequately here. Instead we shall look briefly at certain facts relating to the occurrence, form of and restrictions on expressions of the instrument. The major problem of such expressions concerns the form of the instrumental phrase and the prepositions which may occur with it, that is, instruments can be either nouns or nominalisations so that a full analysis of nominalisations is needed for a fuller understanding. Further, while the most common prepositions of instrumentality are with and by, if it is the case that use takes a direct object as Lakoff (Lakoff, 1968) suggests, then we need to account for this relation and also for those instrumentals which do not have a paraphrase in use and with. The conditions of the use of with or by need also to be explored since, while in general there seems to be a correlation between with and nouns and by and nominalisations, certain nominalisations



can occur with with.

### 3.3.1. The derivation of by-clauses

Although we have already mentioned some points about by-clauses (see our discussion of Lee, 1971a 3.1.6. and 3.2.1. above), we have not considered explicitly their origin in the underlying structure. There are, in fact, two possibilities: either they are generated directly in the deep structure or they are derived by some transformation. It is this latter view which is taken by Vendler (Vendler, 1967) Geis (Geis, 1974), Dowty (Dowty, 1972) and Kastovsky (Kastovsky, 1973), in that they wish to derive the by-clause from the underlying sentential subject of the CAUSE predication. Dowty, following Geis, cites several facts about such clauses which can be given a straight-forward accounting in the transformational analysis but which require ad hoc restrictions if they are generated directly in the base.

(a) Firstly by-clauses can only occur with causative verbs, a fact which is easily explained if they derive from the subject of the underlying CAUSE predication, but which requires some restrictions on non-causative verbs under any other analysis.

(b) If by-clauses are generated in the base, then we need some further restriction to account for the fact that if the causative verb has a surface gerundive subject, then a sentence with a by-clause is unacceptable:

244. \*John's teasing Mary made her angry by kissing Janet

Notice that under a transformational analysis by-clause formation will be rightward bounded (see Ross, 1967) so that it cannot move out of the sentence which immediately dominates the sentence in which the by-clause originated. Thus 244 has an acceptable form where the by-clause is moved to the right of the verb:

245. John's teasing Mary by kissing Janet made her  
angry

(c) The fact that the logical subject of the by-clause must always be co-referential with the surface subject of the sentence is a natural consequence of the transformational analysis but requires an ad hoc restriction in the base-generation analysis.

(d) A further restriction avoided by the transformational analysis is the restriction which is required to prevent the application of the passive if the sentence already contains a by-clause:

246. John made Mary angry by teasing her

247. \*Mary was made angry by John by teasing her

248. Mary was made angry by John's teasing her

Thus we must allow only one by-phrase in the sentence which may be the passive by or the by-clause.

However, if there are arguments for the transformational analysis, there are at least two arguments brought against it by Shibatani (Shibatani, 1973a). The first argument depends on the non-synonymy of the following sentences:

249. John's walking out caused a disturbance

250. John caused a disturbance by walking out

Thus 249 asserts that there is some causal relation between the two events and 250 asserts that John is responsible for causing some event. Thus, if we have a simple rule of by-clause formation, then we import into the grammar a transformation which is not meaning-preserving. One solution would be to have two different structures: one which underlies 249 would have a sentential subject and the other, underlying 250 will have a sentential subject and an empty by-phrase into which the VP of the sentential subject can be moved. The presence of this by-phrase will be responsible for determining the responsibility reading.

The second argument which Shibatani brings involves what he sees as a problem in the analysis of sentences like:

251. John intentionally caused a disturbance

Shibatani observes that the adverb here must modify an animate noun and cannot, then modify a sentential subject: in a more straightforward manner we might say that the adverb requires an Agent subject and not the Force subject which is proposed in the transformational analysis of the by-clause. Shibatani then claims that since intentionally cannot originate in the CAUSE-predication, it must originate in the structure underlying the by-clause i.e. the sentential subject. All this depends on Shibatani's prior commitment to the analysis of the Japanese suffix sase as embodying within it the meaning "by doing something" so that this is posited as an element in the deep structure of sentences containing cause in English, there being some unspecified rule which removes it. Notice, however, that he is



claiming that the adverb here modifies an element of deep structure which does not appear in the surface structure, which is, as we have seen above, one form of argumentation for Lexical Decomposition. Assuming that Shibatani's analysis is correct, the structure underlying 251 should also surface as 252:

252. John's intentionally doing something caused a disturbance

However, 252 and 251 are not synonymous, which argues against the transformational analysis which Shibatani has constructed.

This is not particularly harmful for the transformational analysis, since Shibatani's analysis is not the only one possible. Thus we could modify the structures proposed above: all of the sentences under discussion 249-252 will contain at least two predication, one being a CAUSE-predication which is embedded in the DO-predication. For 249 the sentential subject of the lower predication is raised directly into the subject of the DO-predication. In the case of 250, this higher DO-predication contains the empty by-phrase, which results in an Agent subject with a by-clause. 251 will have the adverb intentionally present in the DO-predication and an empty sentential subject of the CAUSE-predication, while 252 has a sentential subject in the CAUSE-predication and no by-phrase in the DO-predication. These structures will preserve the transformational analysis of by-clauses. We shall discuss the form of such a grammar in greater detail below (see Chapter 4).



essentially the Ablative case recognised by Anderson (Anderson, 1971a). Thus we find evidence for the association between negation and the Ablative case which Anderson has proposed (Anderson, 1971a, 1972a).

If we consider this difference between by and with we find that it is a rather strange situation, in that the use of the prepositions seems to be conditioned solely by the surface form. In fact, the situation is not so simple, since under certain circumstances the preposition with can appear before nominalisations:

259. He annoys everyone with his endless meaning  
To account for this we need a fuller consideration of nominalisations and what follows can only be a brief introduction to one possible line of study.

There is now a lengthy literature on the subject of nominalisations, but it mostly concerns their treatment in the grammar and how they are to be derived. For our purposes the most useful analysis is that of Vendler (Vendler, 1967, 1968). Between the two works, Vendler changed his terminology so that while in the earlier one he talks of perfect and imperfect nominals in the later one he talks of weak and strong nominals. However, these terms do not refer to the same phenomena: while all strong nominals are perfect, it is not the case that all perfect nominals are strong. Similarly, while imperfect nominals are weak, all weak nominals are not necessarily imperfect. The difference lies in the fact that "weak" and "strong" are used to describe morphological properties of nominals,



while "perfect" and "imperfect" refer to their syntactic behaviour. Vendler represents weak nominals as  $V_{-ing}$ , that is, they are verb roots which have the nominalising suffix -ing: strong nominals are represented as  $V_n$ , where  $n$  stands for the class of suffixes  $\emptyset$ , -ion, -ment, -al, -ure, -th, etc. Perfect and imperfect refer to whether the nominal acts like a noun or a verb. Thus weak nominals may take an unmixed set of verb complements or of noun complements, i.e. they are imperfect or perfect, and strong nominals only allow noun complements. With imperfect nominals, then, we find noun phrases, prepositional phrases, adverbs, negation, passives and tense (expressed by being and having). In contrast with these, the perfect nominal, like nouns in general, only allows of NP, prepositional phrases and adjectives. Compare:

John's winning the race, having masterfully won the race, his not winning

\*John's refusal the offer, \*His suddenly death, \*his not death

John's refusal of the offer, his sudden death

Having distinguished between perfect and imperfect nominals, Vendler (Vendler, 1967) looks at the contexts in which they can occur. Again he recognises two types, the first suited to imperfect nominals but being "fairly tolerant towards perfect nominals" (Vendler, op. cit.: 139) and the second selecting perfect nominals. Thus typically nouns like event, process and action can be predicated of perfect nominals, as can the adjectives sudden, slow, gradual etc., while this is not the case with imperfect

nominals:

260. John's singing the Marseillaise was slow
261. The German's having collapsed was a gradual process

Thus Vendler correlates perfect nominals with events and imperfect nominals with facts.

Thus, if it is the case that with is the preposition used with nouns, then we might expect that it is also used with perfect nominals, and by is used with imperfect nominals. The situation is not all that clear and, as Vendler observes, English seems to be in a state of flux with regard to its treatment of nominalisations. However, there does seem to be some form of correlation between the use of with and  $V_n$  as opposed to  $V_{-ing}$ .

- 262a. John annoyed Mary with his insistence  
?by
- b. John angered Mary with his refusal to listen  
?by
- c. John surprised everyone with his failure to see  
the point ?by

Thus the conditioning factor on the occurrence of with and by may be some semantic distinction between on the one hand objects and events and on the other facts. One factor which seems to link objects and events is that they occur or exist in space and in time, that is they can have location predicated of them, as opposed to facts which cannot (Vendler, 1967 for more discussion).

3.3.3. use and with

The relation between use and with has been a topic of discussion since Lakoff first discussed the relation between

(Lakoff, 1968):

263a. Seymour sliced the salami with a knife

b. Seymour used a knife to slice the salami

Lakoff argues that, on the basis of shared selectional restrictions and co-occurrence relations 263a and 263b have the same deep structure, which he claims is more closely realised in 263b. In the following discussion we shall not consider Lakoff's further distinction between purposive and accidental with-phrases, partly because this is not of significance for Lakoff's position, although Kooij (Kooij, 1971) and to a lesser extent Chomsky (Chomsky, 1973) seems to think that it is, but mainly because the distinction which Lakoff attributes to the with-phrase is, in fact, a property of the verb (compare also Weydt (Weydt, 1973) for this position).

Chomsky (Chomsky, 1971) attacks Lakoff's position on the grounds that Lakoff does not take certain facts into consideration and further that the assumed synonymy of 263a and 263b is not supported. Thus he points to the differences in meaning of:

264a. John carelessly broke the window with a hammer

b. John broke the window carelessly with a hammer

265a. John carelessly used the hammer to break the window

b. John used the hammer carelessly to break the window

and suggests that these differences point to a difference in the meaning of the sentences without the adverb.



Zwicky and Sadock, (Zwicky and Sadock, 1975) show that such arguments have little validity. The fact that we can add a further adverb does not prove the ambiguity of the sentence without the adverb, rather it shows that the sentence can be further specified, the action given a fuller description.

Chomsky further assumes that, since Lakoff argues that instrumental adverbs in with have a use adverb, then it must also be true that sentences with use have a corresponding sentence where the object of use corresponds to the "object" of the preposition with. On this basis he can bring the following sentences as counter-examples:

266a. John used the classroom to propagandise for his doctrines

b. \*John propagandised for his doctrines with the classroom

267a. John used his connections to further his career

b. \*John furthered his career with his connections

Some speakers do not find 267b fully unacceptable, but both sentences become acceptable if we use through instead of with or in the case of 266b also in. In fact, these sentences do not constitute a counter-example to Lakoff's position, they merely show the fallacy of Chomsky's argument which is of the form basically, since all Xs are Ys, then all Ys are Xs.

Of more interest are the sentences which Lakoff does not take into account and which, as Chomsky notes (Chomsky, op. cit.) must be considered if an adequate analysis of use and with is to be attempted. Thus Lakoff does not consider

sentences like the following where a final preposition occurs:

268. Seymour used the knife <sup>to</sup> ~~the~~ slice the salami with

269. John used his father's desk to write the letter on

270. John used the back wall to lean the ladder against

271. John used the old car to make his getaway in

The prepositions in 268, 269 and 271 seem to be optional, although speakers seem to prefer the sentence with the preposition, while 270 is unacceptable without the preposition, probably because it cannot be recovered from the sentence. Under Lakoff's analysis there is no means of accounting for this preposition, which leads Chomsky to propose 272 as a more adequate representation of the underlying structure of 263a:

272. Seymour used a knife (Seymour sliced the salami with a knife)

where the prepositional phrase occurs in the embedded sentence and a rule will specify when the preposition can be deleted. A further problem, which Chomsky does not note as a problem equally for his own analysis, arises from the fact that 263a has a second paraphrase with a by-clause containing use:

273. Seymour sliced the salami by using the new meat-slicer

where by is optional. Thus it is difficult to explain why the matrix sentence is lowered into the embedded sentence to become a by-clause.

Further points to be considered concern the fact that there is an alternative, though possibly not a full

paraphrase, with an in-phrase:

274. John used the classroom in propagandising for his doctrines

the fact that use does not itself allow an instrumental adverb and that use has variants:

275. John <sup>made</sup> had/got the use of Bill's slide-rule to work out the answer

Notice also that the verb use belongs to that sub-group of verbs which do not allow a reflexive with benefactive meaning. Thus while one can find, paint, kill, break, open etc. something for oneself

276. \*John used himself a slide-rule to work the answer out

is unacceptable. This lack of overt Benefactive may well be linked with the fact that the Benefactive is in some way incorporated into the subject, and also to the occurrence of have and get in 275. A possibly more interesting solution would depend on the relationship between Benefactives and the expression of purpose. If these are essentially the same in deep structure and we allow the occurrence of only one expression of Benefactive or purpose, then a Benefactive cannot occur in 276 since we already have a purpose expression in the to-phrase.

It is useful also to compare this situation with the Latin verb uti, translated usually as "use" but also as "benefit from", "enjoy" as in Bona valitudine utitur "He enjoys good health" (where bona and valitudine are in the ablative case). Uti was a deponent verb, i.e. one of the



residual class of middle verbs, which, as we noted above (3.2.4.) have been related to reflexives and in general require an object in the case usually used to mark the instrument. Thus use may well belong to the category of "middle" verbs of English (3.2.2., 3.2.3. above). Like the Latin verb, use involves the subject benefiting from the action and its object is related to with-phrases, i.e. Instruments. Moreover, like other middle verbs in English, it is "complete", that is, one cannot use an instrument by doing something other than using an instrument, use does not allow a by-clause, and it typically takes an animate subject, i.e. an Agent.

There is a further point about use and Instruments and Benefactives best brought out by considering the following:

277a. John killed Bill with a knife

b. John used a knife to kill Bill

287a. John killed Bill by stabbing him with a knife

b. \*John used stabbing Bill with a knife to kill him

The gap in the paradigm may well be filled by

288. John stabbed Bill with a knife (in order) to kill  
him

Thus imagine a structure which has a main predication DO containing an Agent a purpose expression and some Instrumental phrase which may be either a further predication or a noun. A lower predication will be incorporated into DO to produce a sentence like 288 while with a noun DO is lexicalised as use. We return to such structures below (see Chapter 4).

One final point before leaving the question of

Instruments and the verb use concerns the relation between Instrumental phrases and by-clauses on the one hand and manner adverbs on the other. Although some relationship is generally acknowledged, there is no clear proposal (for a review see Nilsen, 1973). However, our suggestions above may provide some basis. Thus if Nilsen and the scholars he cites are correct in seeing Manner Adverbs as a major category of which Instruments are a subpart, these latter may well be definable in terms of their occurrence as the "object" of with or of use.

In this chapter we have reviewed the suggestions made in the literature on the subject of subjects, verbs, objects and instrumental phrases in causative sentences. In the next chapter we review some of the suggestions for the treatment of such notions in the grammar and then proceed to the development of a Localist case grammar capable of their treatment.

## CHAPTER 4

## A First Approach

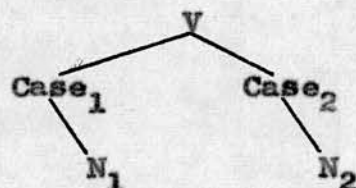
At several points in the preceding chapters we have mentioned the work of J. Anderson and in what follows it will be evident that many of the proposals are dependent on his work. However, there are also points of difference, which it would be difficult to consider fully here without a more complete discussion and extension of our own proposals. However, we can present the main outlines of Anderson's grammar and indicate which proposals we shall adopt and give some reasons why we disagree with others.

The main outlines and motivations for Anderson's grammar are to be found in a series of works (Anderson, 1971a, 1971b, 1972, 1973b), and it must be emphasised that this is a grammar in development so that technical terms may differ slightly in their use. The part of the grammar which directly concerns us can be divided into two components, the formation rules and the movement rules. A dependency model is used and for a fuller discussion of the properties of and arguments for such a model see Anderson (Anderson, op. cit. 1976, 1977), Robinson, (Robinson, 1970), and Bartsch and Venneman (Bartsch and Venneman, 1972). The verb is sub-categorised with respect to the features  $\pm$  Locative,  $\pm$  Directional and  $\pm$  Stative which govern the cases which are introduced as dependent on the verb. The base itself is unordered, linearisation being one of the roles of the later rules. The output of this component is a Hierarchy of quasi-predications, which Anderson (Anderson, 1972) terms a



"global predication". A quasi-predication is defined as one which contains "at least one empty argument which has no dependent" (Anderson, op. cit.: 332). Thus given the tree

1.

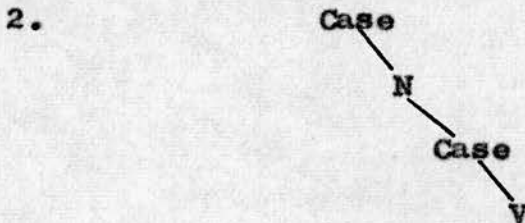


at least one of the arguments  $N_1$  or  $N_2$  must be "unspecified semantically other than that it is N". There is a constraint on global predications such that the lowest predication cannot be a quasi-predication. In what follows we shall attempt to show that such structures, coupled with the rule of Raising, allow us to handle co-reference.

The global predication is the input to the movement rules, of which we wish to consider the four major ones. Notice that while we term these movement rules, they are not strictly speaking so: thus in Case Grammar there are no movement transformations, there is only Raising, that is, any re-ordering of elements which would be handled by a transformation by non-case grammarians, is handled in Localist case grammar in terms of Raising into a higher predication (see Anderson, 1976: 122-3 for discussion). There are other rules besides those discussed below, but these, deletion of Existentials, superimposition of quantifiers and Eachtrapolation operate within quantifier constructions which are outside our present field of enquiry. The rules which we shall discuss are Copying (also Raising) Subjunction,

V-Adjunction and Loc-Adjunction. Notice that in various papers these last two rules have been called Abjunction (Anderson, 1972) and Loc-Adjunction has been called Locative Attachment (Anderson, 1973b).

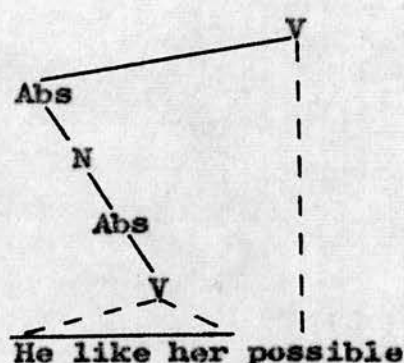
As a broad generalisation one might say that V-Adjunction and Loc-Adjunction provide the input to Subjunction, all of which are basically concerned with the re-ordering of elements prior to Lexicalisation. Copying, (also referred to as Raising in later works see Anderson, 1976), involves moving the semantic specification of a case into the case dependent on a higher occurrence of V and as such is involved with subject and object formation. V-Adjunction and Loc-Adjunction operate on structures of the form



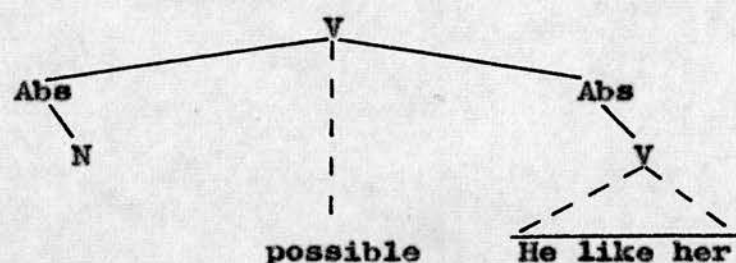
and attach the lower V and its governing case to the higher verb or to the Loc respectively. Thus, as an example of V-Adjunction we have the following tree as input: (see over). This structure is part of the structure underlying It is possible that he likes her, tense and aspect pre-dications having been omitted. V-Adjunction takes the lower V and attaches it to the higher V to produce structure 4: (see over).

While V-Adjunction seems to be a quite common rule, the use of Loc-Adjunction seems to be more restricted, applying solely in structures involving

3.

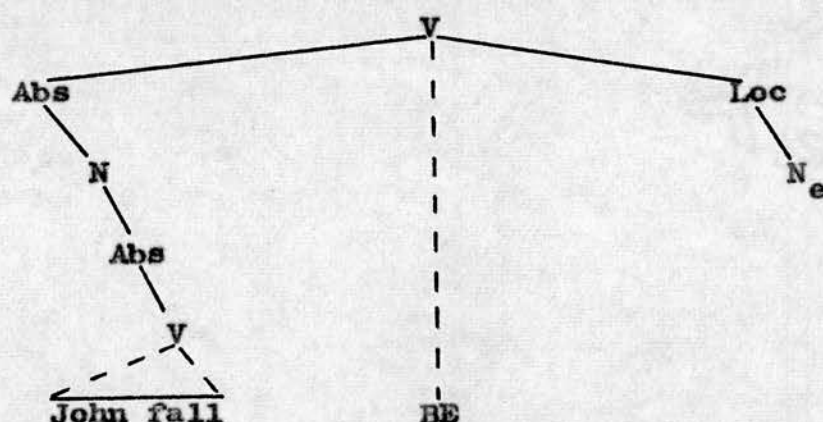


4.



progressive and inceptive aspect. Thus, omitting the tense predication, the relevant part of the structure underlying John is falling is shown in 5:

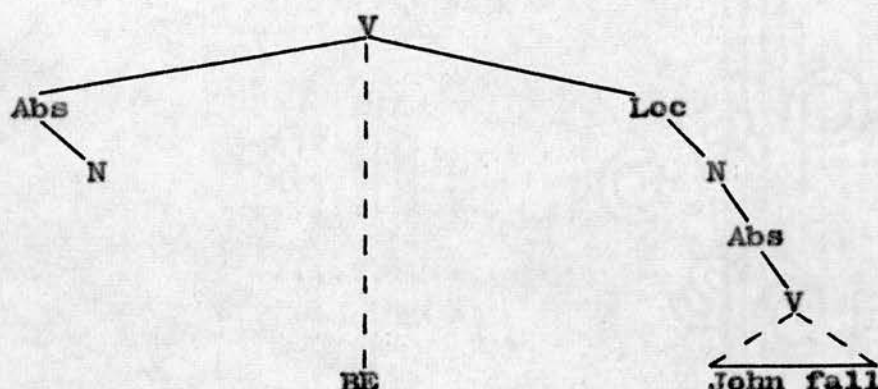
5.



where  $N_e$  is the existential and the predication predicates existence of John's falling. Loc-Adjunction applied to this structure will attach the lower V and its governing case to the term dependent on Loc to produce:

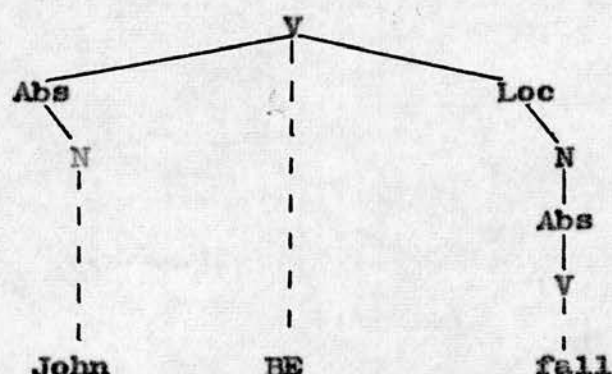


6.



Both the rules of Copying (Raising) and Subjunction can apply to this structure. Copying is the rule which assigns the lower occurrence of "John" to the higher Abs, and, as already mentioned, is largely responsible for re-ordering elements. The resulting structure corresponds to John is in the process of falling and to obtain John is falling we need to Subjoin the lower V to the higher N to produce:

7.



The rule of Subjunction forms complex segments and in one work (Anderson, 1972) we find it referred to as Complex Segment Formation. Such complex segments are realised in the surface structure as one lexical item. To understand Subjunction we need to look back at dependency trees. In terms of dependency structures we can distinguish between two sub-types, Adjunction trees and Subjunction trees, both involve dependence of lower elements on higher ones but they

differ in that Adjunction trees contain nodes which are distinguished in precedence/order. Notice that this does not mean that the trees are ordered, it simply means that order is relevant at some point in the structure. Subjunction trees do not contain nodes distinguished in terms of precedence, order is not relevant at all. Lexical insertion, then, involves attaching some lexical item to a Subjunction tree. A major constraint on Subjunction is that only a contiguous dependent may be subjoined, that is, in structure 6 Subjunction can only apply to Subjoin the lower V to N, it cannot Subjoin to the higher V since these two Vs are not contiguous. Alternatively only direct dependents can subjoin and indirect dependents cannot. This rule of Subjunction is also responsible for creating the Subjunction tree which underlies verbs like kill, containing at least the predicates CAUSE DIE. For further discussion see Anderson, 1971b, 1972, 1976, 1977.

These, in broad outline, are the main mechanisms which Anderson's grammar calls upon. To give a detailed and well-motivated reasoning for our rejection of some of them is beyond the scope of our study. However, we can, at least, give some reasons for accepting certain proposals and suggest possible sources of arguments for the rejection of others and simpler proposals with which to replace them.

Let us consider firstly the rules of Adjunction. Notice that both take as input a structure which has a complex subject and simplify this subject by moving it after the verb and further it may not then be Subjoined to the verb.

Anderson (personal communication) has suggested that this may be a reflex of the fact that in many languages a complex subject is avoided wherever possible, probably due to perception factors. However, if there is such an aversion for such complex subjects, we could just as easily assume the reverse derivation, that is languages in their underlying structure have basically simplex subjects and complex non-subjects so that complex subjects are formed by some movement rules. An alternative analysis of the progressive in particular would conform to this. Thus while it may be more difficult to argue for a non-subject source in sentences like It is possible that he likes her, since we do find such sentences with complex subjects. the position is more complex with progressives. Thus we do not find progressives, normally, with complex subjects.

Consider, then, structure 5 and the rule of Loc-Adjunction. The purpose of this rule is to move the Abs on which the lower V is dependent and attach it to the N governed by Loc, that is, it is a purely linear movement between sister cases of the same predication, while in general the movement rules involve attachment to some higher element. One might suggest that such a rule requires strong motivation, which is lacking in the works considered. A further point which suggests an alternative analysis may be preferable and concerns the status of  $N_0$ . Notice that, at least in English, there is no surface structure which corresponds directly to structure 5, that is, there is no normal sentence like 8 which has the same meaning of 9 or 10:



8. ?The <sup>process</sup><sub>act</sub> of John's falling is in existence
9. John is in the process of falling
10. John is falling

However, if  $N_e$  does not turn up on the surface, it does undergo two rules which alter its meaning, in one case it is expressed in the surface structure by the form process (compare 9) and in the other it has no overt realisation, being part of a Subjunction tree. Such points do not prove the point one way or the other, but at least they suggest that an alternative analysis may be possible, one involving a structure more closely resembling "John is in the process of falling" (for such a treatment of Russian see Miller, 1970, 1972). Notice further that such an analysis would be in keeping with a general constraint that one might impose on any grammar, namely only move as far from surface structure as is absolutely necessary.

However, if we differ from Anderson in not allowing Loc-Adjunction, we do operate with the rules of Raising and Subjunction, this latter filling the role essentially of Predicate-Raising in transformationalist accounts of causative constructions. A further difference lies in the array of cases allowed. Thus Anderson operates with four cases, Absolutive (originally called Nominative), Ergative, Locative and Ablative. In Chapter 2 we suggested that Fillmore's case array could be reduced to four cases, one for the object that moves, one for the source, one for the goal and one for the location or path, these also being the

general notions of 19th century Localists (see 2.4. above). Thus the only case which does not differ between Anderson's array and ours is Abs. Anderson's Loc will correspond to our Loc and All. Anderson's Erg and Abl we treat as one case, namely Abl.

#### 4.1. A First Approach

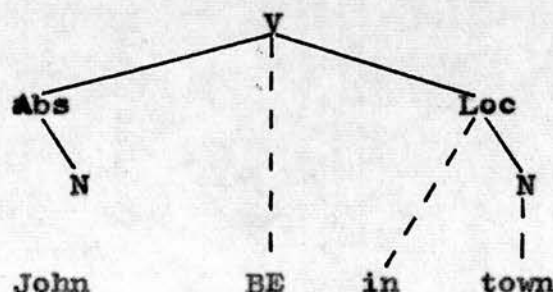
We assume that the grammar has the same form as that of Anderson's, one component which contains a set of formation rules and secondly a component which is responsible for realising these structures in syntactic surface structures, at some point, to be considered below, another set of rules applies to give the semantic specifications of the relevant items, semantic insertion rules. Following Anderson, we assume that Abs is the one obligatory case which every predication contains. Other cases will be introduced in accord with other properties of the predicate, basically whether it is a stative or non-stative predication.

A stative predication may be either concrete or abstract. Within the former category we have sentences like

11. John is in town/the room

for which we assume a structure of the form:

12.



In this structure we ignore questions of tense and aspect. Thus we need a rule which will allow a stative predication

to contain Loc. We shall not explore this further, but it is possible that a stative predication may contain Abl instead of Loc, that is given the relationship between source and negation posited by Anderson (Anderson, 1971a), John is out of town will have town governed by Abl.

Within the category of abstract stative predications we have the progressive aspect and predications of emotional state such as:

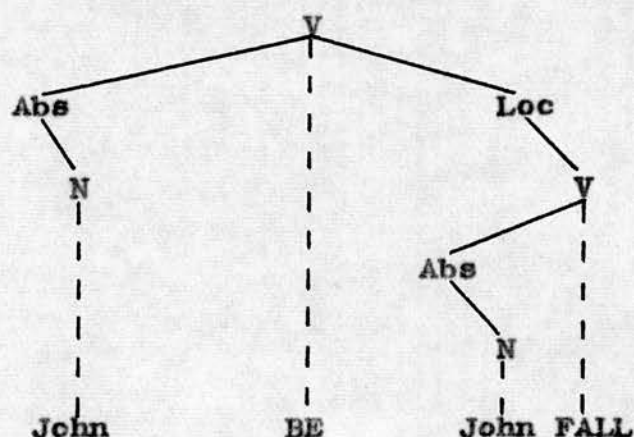
13. John is angry/in love/in a state of depression  
Anderson treats aspect in terms of the structure given above as 5. We have already raised some queries about this structure. There are further points which we must clarify in developing the grammar. Firstly, is the Abs of the higher predication specified and secondly do we need a relative clause like structure dependent on Loc if we adopt the alternative suggested, that is have a structure of the form 6 as input to the movement rules? Taking this second point first, we must note that the relative-clause-like structure is a consequence of Anderson's position that V is never dependent directly on any other case than Abs. This position is not made explicit as far as we have been able to discover in any of Anderson's works and there is, thus, no strict argumentation for it. In face of the lack of such evidence, we shall adopt the simpler position, namely that V can be directly dependent on any case. Thus our modified structure will be of the form 14 below.

The first question concerns the point made earlier about the nature of semantic specification. We need to



make one basic assumption, namely that all terms i.e. Ns and Vs receive their semantic specification before any movement rules apply. However, this assumption is compatible with two different views of semantic specification, the first being that it is unconstrained, and the second being that there are constraints which allow only certain terms to receive a semantic specification. The first position has certain consequences for the grammar which may or may not be unpleasant depending on one's view of grammar. Consider then the structure of John is falling under the first view:

14.



The point is that if semantic specification, i.e. the insertion of semantic material, is unconstrained, then there is no means of ensuring that the Abs of the higher predication governs a noun which is co-referential with the Abs of the lower, that is we could not prevent structures paraphrasable as "Fred is in the state of John fall". Given this position, the formation rules in conjunction with the unconstrained semantic specification rules will produce a large number of structures which do not have

corresponding acceptable surface structures. If one is willing to accept such a conclusion, as the proponents of the Extended Standard Theory appear to do (see for example Jackendoff, 1972) then there is no problem. However, if such a conclusion is unacceptable, then we need some means of restricting semantic specification. One means of tackling the problem would be to use the rule of Copying or Raising. Raising, then, as one rule, or possibly a set of rules, raises the semantic specification of a noun into a higher noun and marks those nouns as co-referential. This suggests that semantic specification be constrained such that each actant in a sentence occurs only once or is introduced in one position in the underlying structure and the rule of Raising will then mark all case relations into which it enters. Thus in the structure underlying John is falling the semantic specification "John" will only appear once, governed by Abs of the lower predication. Raising will then raise this specification into the Abs of the higher predication. There are other questions which this raises, such as the problem of which terms may be specified and the effect this has on the lower occurrence, but we shall return to these below when we have a more developed grammar. Notice, however, that such a position has one interesting consequence, namely that the formation rules and the semantic specification rules do not provide a full semantics of a sentence, this is only obtained after the Raising rule has applied.

Turning to non-stative predications, we find that there

is more immediate evidence for the range of cases which can occur with the predicate MOVE. Thus we find sentences with only a source or goal overt:

15a. John left London

b. John reached home

where London and home are governed by Abl and All respectively. There are also sentences with both source and goal overt

16. John went home from his office

Thus we need to allow for both Abl and All dependent on MOVE-predicates, and permit either both or just one of the cases to receive a semantic specification. Finally we have a prepositional phrase with through which can occur in such sentences, marking the Path, as in

17a. John went through the town-center

b. John walked from the church to the pub through the old cemetery

These raise the problem of what case governs the expression of Path. In fact, the only case open is the Loc and there is some evidence to support this identification of Path with the Loc case. We pointed out in Chapter 2 (see 2.2.3.1. above) that the prepositions with and by were originally stative locative prepositions and both have developed non-stative uses. Thus compare:

18a. The church is by the pub

b. John passed by the pub

and we find sentences paralleling these with near to. We shall also argue that with marks both a locative in sentences like



19. John is with Bill

and also the instrument or Path along which the action passes in sentences

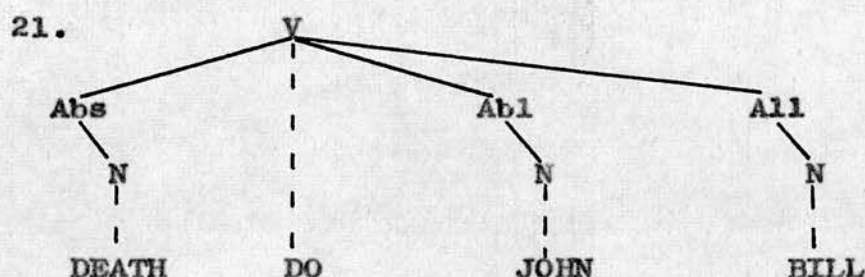
20a. John killed Bill with his father's gun

b. John stabbed Bill with a knife

Thus we need to allow non-stative predicates to govern four cases, the obligatory Abs and Abl, All and Loc, where Abs is obligatorily semantically specified and at least one of the local cases must be also.

Turning to a sub-category of non-stative sentences, namely the causatives we might assume that the same case array is needed. This may well be the case, but the rest of this chapter is devoted to exploring this. What must be done at the moment is consider what the cases in a causative predication might correspond to. Anderson (Anderson, 1971a) suggests a close relation between the underlying case of the Agent and the Abl case, i.e. between his Erg and Abl, but we have conflated these as one case Abl. We gave some data in Chapter 2 to support the relation between Agent and Abl (see 2.2.3.) and examples of causative sentences in Chapter 3 also show a relation between the cause and a case marker which may elsewhere mark the source, i.e. Abl (see 3.1.). Thus if Abl marks the Agent, then All will introduce the Patient. Again data from Chapter 2 supports this (2.2.2.2.-5., 2.2.3.). This identification of Agent and Abl and Patient and All will capture the notion of passing over present in the term "transitive" of traditional grammar. However, this leaves us with Abs and Loc and the

question of their status in a causative predication. Abs is the one obligatory case and insofar as it marks the object which moves this is the likely candidate for the case governing that which is caused, that which the Patient receives or suffers. This, in fact, is how Miller (Miller, 1973) treats causative sentences. Thus as the underlying structure of John killed Bill we might have at least the predication:



This is only a preliminary suggestion, but it does go some way towards capturing the relation between transitive verbs and doing to, that is, we find sentences like:

22a. What did John do to Bill?

b. What John did to Bill was kill him

where a full transitive verb like kill seems to correspond to do plus what, this latter being a form used to question noun phrases, that is elsewhere it corresponds to NP.

23. What did you see? A book

Similarly we might look to other analytic verbs like give a thrashing/beating/a kick in the teeth which parallel the verbs thrash, beat, kick in the teeth and such analytic verbal expressions contain the verb give which in a sentence of concrete movement takes a Goal or recipient, (for a more detailed discussion of such relations see Olsson, 1961,

Liefrink, 1973 and Nilsen, 1973). A full treatment of such relations is outside the scope of our present study, but we shall present some preliminary suggestions for a fuller analysis of the situation and some possible treatment.

Finally we need to consider the possible status of Loc in such predications. We have suggested that in non-stative predications this case marks the Path and the notion which most closely corresponds to this in causative predications is the manner or instrumental expression. Thus we suggest that the sentence

24. John killed Bill by stabbing him with a knife  
may be analysed in terms of a structure which we can paraphrase as "Death passes from John to Bill through/by John's stabbing a knife into Bill". In what follows we shall begin to explore the form of a grammar which captures these suggestions.

#### 4.2. A Review

A useful point to start is a re-consideration of the suggestions and relations which were dealt with in Chapter 3 above which one would hope a grammar of causation would be able to deal with. We shall begin by reviewing the major points which are related to the notions of activity and accomplishment before turning later to the question of direct and indirect causation and the possible relations of such notions to the Lexical Decomposition hypothesis.

(i) We have suggested that there are at least two predicates DO and CAUSE which take Agents and Forces respectively, such that Agents are necessarily animate while Forces may be



animate or inanimate and in the case of animate Forces we have a derived Agent from some lower predication. (There is the problem of how to classify machines (see Cruse, 1973, McCawley, 1972, Shibatani, 1973a etc.) but we shall leave this question for the moment).

(ii) There are complete and incomplete verbs which take Agents and Forces respectively. Moreover, these seem to correlate with the two categories of verb which we called do with-verbs and do to-verbs, so that we might identify the former with complete verbs and the latter with incomplete verbs on the ground that both ~~of the former~~ involve essentially movement of an object (marked by with in certain circumstances) by some Agent, while the latter two categories, i.e. incomplete and do to-verbs are both transitive and involve an Agent operating on some object. The complete/incomplete distinction also bears on the distinction between causative and method by-clauses.

(iii) Haudry (Haudry, 1970) distinguishes between internal and external objects: the former in many languages is marked by a locative, comitative and/or instrumental case-marker (see English with) and he says of it that it defines the verbal action: the latter corresponds to the object acted upon. Thus we can correlate internal objects with complete verbs and external objects with incomplete verbs. Notice that an external object is marked, according to Haudry, by the accusative case, a case which elsewhere marks the Goal (see English to).

(iv) Parallel to the complete/incomplete distinction, we

have Vendler's distinction between activities and accomplishments. We discussed this in relation to Fillmore's two verbs swim (Fillmore, 1971a). One of these is the simple activity verb swim, while the other is the accomplishment verb to which Fillmore assigns a structure involving a higher predication of movement and instrumental by-clause containing the activity verb swim, such that the surface verb is derived by a process like Gruber's Incorporation (Gruber, 1965). Alternatively we might say that the by-clause functions in a similar way to Haudry's inner object and defines the verbal action, which would allow for a relationship between this type of derivation and that found in the parallel analytic and synthetic verbs like put butter and butter, where it is the object which moves that is incorporated. More overt support for such a treatment is to be found in phrasal verbs and related structures e.g. chop free which are accomplishment verbs and the verb is the result of incorporating the manner constituent and the particle or adjective denotes the resulting state, this structure being more obvious in the related free by chopping.

(v) We suggested a relation between Benefactive and purpose clauses and that there is no possibility of making any strict correlation between DO and Agents and CAUSE and Forces since we find examples where a Force appears as subject of a transitive verb, i.e. an underlying DO. However, it seems to be the case that while Agents and Benefactives or purpose clauses are not mutually exclusive, i.e. we find John did it for Mary, Forces and Benefactives

cannot appear in the same clause.

From these suggestions we can form certain hypotheses about the structures with which we are dealing.

(i) Firstly there is a predicate CAUSE which takes a predicative Abl and a predicative All, i.e. cases with a predication dependent on them. This will capture the notion that cause is a relation between two events, and may also help to solve some problems of the activity/accomplishment distinction, since we have correlated incomplete verbs taking Forces with accomplishment verbs. Thus all accomplishment verbs may involve a CAUSE predication at some point in their structure.

(ii) There are two predicates DO, or alternatively DO may have two different case arrays, firstly abs-abl-all, where Abl may have N, i.e. an Agent dependent on it or V, i.e. a Force and All may have an N i.e. Patient, while the second will be Abs-Abl-All but here Abl is necessarily governing N, i.e. an Agent and All governs optionally N, i.e. a Benefactive or V, i.e. a purpose expression of the form in order to... The first of the above structures will also correspond to the do to-verbs and the fact that such transitive verbs are also accomplishment verbs suggests that their structure contains a further CAUSE-predication, probably dependent on the Abs.

#### 4.2.1. CAUSE and DO

We approach the question of the status of CAUSE and DO within the grammar by returning to the differences noted by Lee (Lee, 1971a see 3.1.6. and 3.2.1. above) and considering

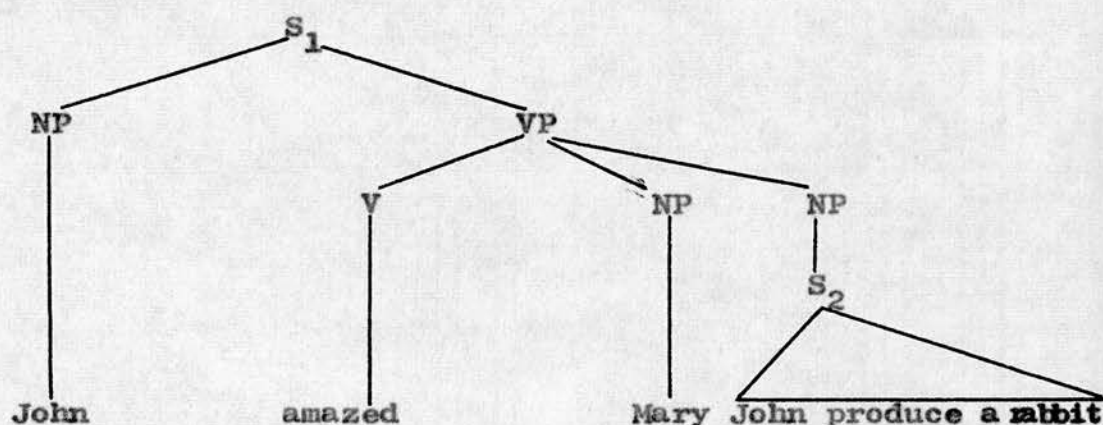


how other linguists have dealt with this distinction and with causatives in general.

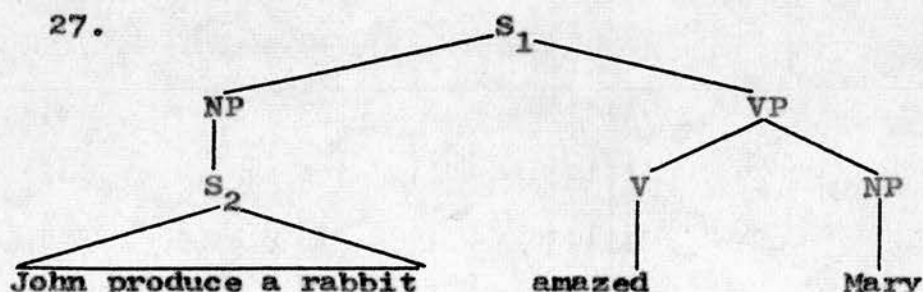
Aijmer (Aijmer, 1972) adopts the terms direct and indirect causation from Lee, that is he uses them to refer to syntactic properties of sentences as opposed to the semantic ones implicit in Lakoff's first use of them. Given the sentence

25. John amazed Mary by producing a rabbit which is claimed to be ambiguous between John as an Agent deliberately amazing Mary and John's action of producing a rabbit i.e. a Force amazing Mary, Aijmer gives the following structures respectively:

26.



27.



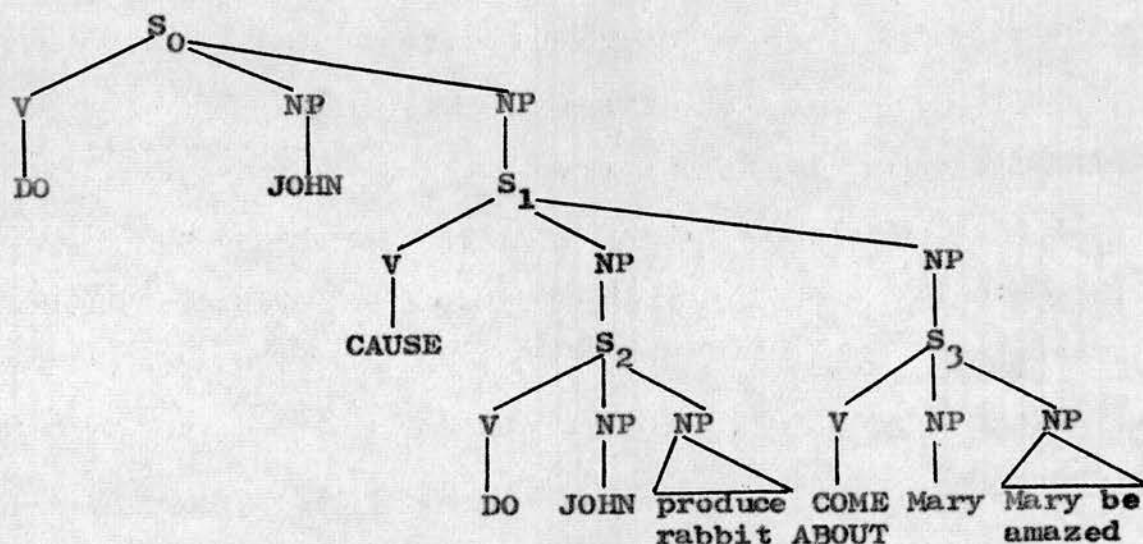
Notice that 26 requires the Like-Subject constraint so that the subject of  $S_1$  and of  $S_2$  are co-referential: this would be handled in our grammar by the rule of Raising, which takes the semantic specification of one noun and Raises it into a

higher one. There is also the problem of the exact status of  $S_2$  in the structure: is it, in fact, an NP or should it be a Prepositional Phrase in order to account for the preposition by? Even if it is dominated by PP, Aijmer gives no means of showing why only by is possible in this sentence and no other preposition, nor of handling the fact that the by-clause is a manner adverb. The derivation of 27 is more problematical. Aijmer proposes two rules: firstly Extraposition, which moves the sentential subject to sentence final position and secondly Subject-Raising, which raises the subject of  $S_2$  into the now vacant subject position of  $S_1$ . The main problem is how to account for the occurrence of by, for whether the rule of Extraposition attaches  $S_2$  to  $S_1$  or to the VP there is no structural identity between this structure and 26 which will allow for a unified analysis of by.

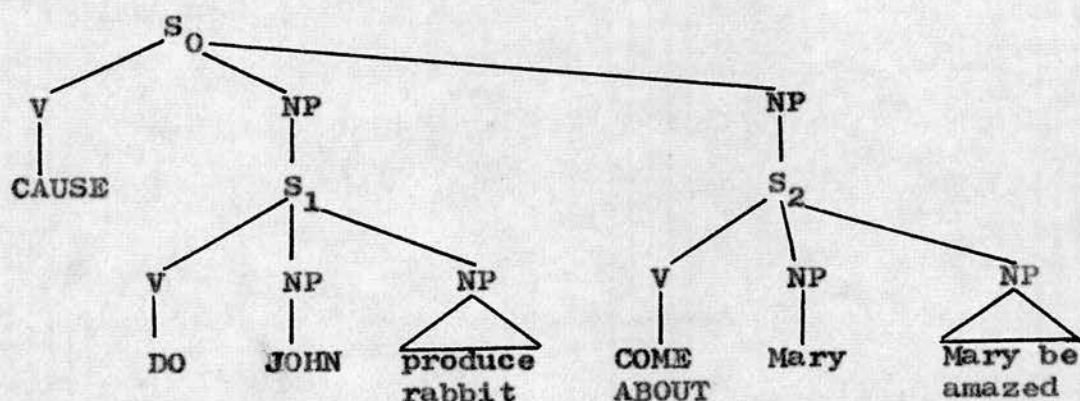
Dowty (Dowty, 1972) also proposes structures for similar sentences to 25 above (see also Kastovsky 1973 who handles such sentences in essentially the same manner as Dowty). Dowty posits two predicates DO and CAUSE, the latter taking both a sentential subject and object, i.e. it marks a relation between a causal Force and a resulting event and the predicate DO takes an animate NP as subject and a sentential object. One further property of DO in Dowty's grammar is that it denotes volition on the part of the subject, (Ross, 1972 makes the same claim for his predicate DO and we shall consider below the problems which this creates for the relation between DO and the surface form

do). Under Dowty's analysis the structure of the two readings of 25 would be 28 and 29:

28.



29.



28 is the structure which underlies what Dowty calls the intentional interpretation of 25, while 29 underlies the non-intentional: this intentional vs. non-intentional distinction parallels the distinction which Lee draws between method and causative by-clauses and the distinction drawn here between Agent and Force as subject in the underlying structure.

The derivation of 28 proceeds as follows: firstly the subject of  $S_2$ , JOHN, is raised into  $S_1$  where it will be



deleted by Equi-NP-Deletion since it is co-referential with a higher occurrence in  $S_0$ , and secondly the rule of by-phrase formation applies. The rest of the derivation is not dealt with explicitly but presumably successive application of Predicate Raising will raise the predicates AMAZED, COME ABOUT, and CAUSE into the V of  $S_0$  and a lexical insertion rule will insert amaze for DO CAUSE COME ABOUT AMAZED. There are two problems with this derivation, the most important of which concerns this rule of by-phrase formation. To claim that there is such a rule is merely to ensure that we obtain the correct surface structure. However, without some formulation of this rule and an exploration of the conditions under which it applies, Dowty's analysis reduces to the mere claim that there is a by-clause in the surface structure and as such is as insightful as the statement that the first word is John, the second amaze the third Mary etc. The question which needs to be asked is why it is a rule of by-phrase formation and not of to- for- from- rhubarb- phrase formation, if we are going to have a grammar which approaches explanatory adequacy. Secondly the grammar which Dowty proposes makes the wrong claims about the acceptability of some sentences. He notes that the rule of Super-Equi discussed by Neubauer (Neubauer, 1972) would delete the subject of  $S_2$  before it raises. Super-Equi is an optional rule and pronouns can appear in such positions. For example, the rule may or may not apply in the underlying structure of 30 which accounts for the optional pronoun:

30. John thought that (his) going off by himself would annoy Mary

Dowty claims, then, that such pronouns are only possible in sentences with the intentional reading. He admits that the intuitions on this matter "are not clear" but the claim contradicts that made by Lee (1971a). We noted above (3.1.6.) that Lee supports his analysis with the fact that pro-forms are possible only in causative by-clauses i.e. non-intentional and the facts seem to support Lee rather than Dowty on this matter, namely that a non-intentional reading is preferred with a pronoun present in the by-clause.

Turning to the derivation of 29, the same two rules will apply, namely Subject-Raising which raises the subject of  $S_1$  and attaches it to the right of the V of  $S_0$  and secondly by-phrase formation. Since JOHN will be the NP immediately to the right of CAUSE, it will be moved into surface subject position by the rule of Subject-Formation. There is an alternative derivation for 29 in which Subject-Raising does not apply. In this derivation the NP eligible for Subject-Formation is the one dominating  $S_1$  so that the surface structure will be

31. John's producing a rabbit amazed Mary  
 Notice again that there is the problem of by-phrase formation. However, added to this is the question of lexicalisation as amaze: Predicate-Raising applied to 29 will produce CAUSE COME ABOUT AMAZED while applied to 28 it produced DO CAUSE COME ABOUT AMAZED. Dowty does not explain why two different structures both lexicalise as amaze.

While we must reject the major part of Dowty's analysis,



there is one part which is worth preserving, namely the treatment of CAUSE. The structure which he proposes does allow, as he notes, for the application of Predicate-Raising to the sentential subject of CAUSE as opposed to its application to the sentential object which produces amaze in the above structures. Thus consider another structure where the sentential subject of CAUSE is something like "John stab Bill with a knife" and the object "Bill died". If Predicate-Raising applies in the sentential object then we obtain the verb kill:

32. John killed Bill by stabbing him with a knife  
However, it can also apply in the sentential subject to produce

33. John stabbed Bill to death with a knife  
Such an analysis parallels many sentences discussed by Green (Green, 1970) where the verb marks the activity and the adjective the resulting state.

Turning to the suggestions of Lee (Lee, 1971a), we are faced with a problem, for his suggestions remain suggestions and are not directly embodied in any structure which he presents. The hypothesis which governs Lee's study is that in underlying structure only Agents can appear as the subject NP, so that any surface structure subject which is not an Agent must be a derived subject. In terms of this let us consider the properties of causative and method by-clauses which he recognises (see 3.1.6. above for more details).

(i) method by-clauses require an activity verb, i.e. one



which allows a subject as defined by Lee. Causative clauses do not require an activity verb.

(ii) method clauses do not express the reason for the action described by the main verb, while causatives do.

(iii) In a sentence with a method clause the subject is generated directly in the underlying subject position, while with a causative clause the subject is derived from a manner adverbial which underlies the causative clause. One of the pieces of evidence for this is the Like-Subject constraint (see 3.1.6. for the three arguments for this given by Lee).

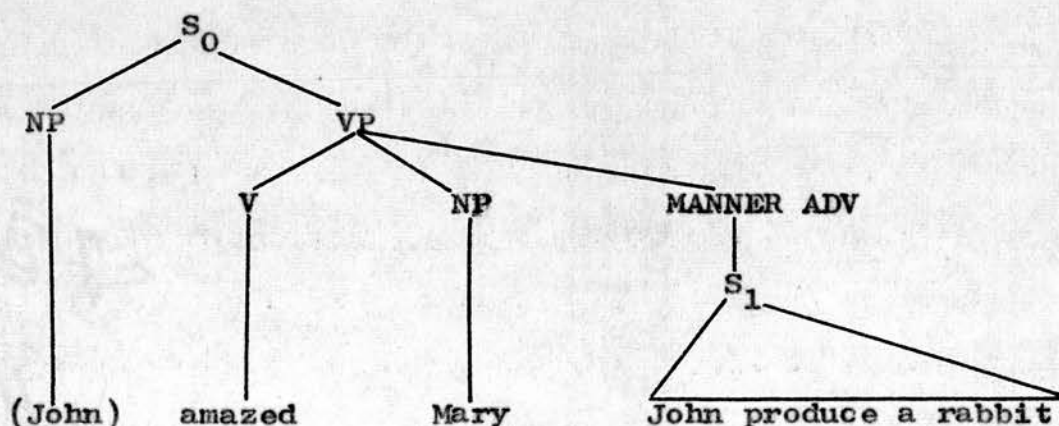
(iv) Sentences with method clauses do not have a paraphrase with a nominalisation as subject while those with causatives do.

(v) Parallelling (iv) is the fact that only causative clauses allow a paraphrase with The fact that... as subject.

(vi) Only sentences with method clauses allow Benefactives and expressions of purpose.

If we embody these claims in the underlying structure, then the simplest would be the following:

34.



(The brackets around the subject occurrence of John mean

that if this element appears, then we are dealing with a method by-clause, but if it is absent, then it is a causative clause.) Let us go through the points i-vi above with respect to this structure.

(i) To account for this we need a constraint to the effect that the verb of  $S_1$  must be an activity verb if  $S_0$  has a subject, a constraint which does not conform to the normal conditions on constraints and seems to have little explanatory power.

(ii) This point does not seem to be adequately accounted for in the structure. Again the problem seems to be that a great deal is dependent on the presence or absence of an underlying subject.

(iii) This is embodied directly in the structure and needs no comment.

(iv-v) Both these points are to be related in that they involve movement of the Manner Adv constituent into Subject position. Notice that nominalisations and clauses introduced by The fact that.. are prevented from originating in subject position by the constraint that this position is reserved for Agents and this is the only reason why a treatment which is intuitively more satisfying and one which does not require a movement rule of the form mentioned is not allowed.

(vi) This point again is related to the occurrence of a subject and could in principle be handled by a constraint which rules out structures which have a purpose clause but no subject. Notice, however, that this is a strange

constraint in that it requires a lexical item in subject position to select the occurrence of a major constituent, or alternatively it requires that a purpose clause control the insertion of a lexical item in subject position.

Whichever way the constraint is formulated, assuming that this is, in fact, possible, we are dealing with a form of constraint for which there is no precedent in terms of the model with which Lee is working.

Finally we should observe that Lee is going to require some rule which inserts the preposition by at some point as a constituent of Manner Adv, and we have already commented on the difficulties of this in our discussion of Dowty. Thus what is the controlling factor in Lee's structure which will select by? However, if we leave the discussion of Lee's proposals at this point, then we leave untouched his proposals concerning direct and indirect causation, which must, in some way, be reflected in structure 34.

As pointed out in our discussion of Lee's use of the terms "direct" and "indirect" causation, he uses these terms for essentially syntactic properties, or rather to characterise certain properties of the underlying structure of sentences (see 3.2.1. above). He equates indirect causation with causative by-clauses and direct causation with method by-clauses and further gives three arguments which, he believes, support the claim that the predicate CAUSE is present in the underlying structure of sentences which contain causative by-clauses. The three arguments depend on the non-synonymy of 35a and 35b as opposed to the



synonymy of 36a and 36b:

35a. John killed Bill

b. John caused Bill to die

36a. John's arrival necessitated a revision of their plans

b. John's arrival caused it to be necessary to revise their plans

secondly on the unacceptability of nominalisations in subject position with certain verbs:

37. \*John's failure to turn the burner off boiled the water

38. John's sudden death surprised many people

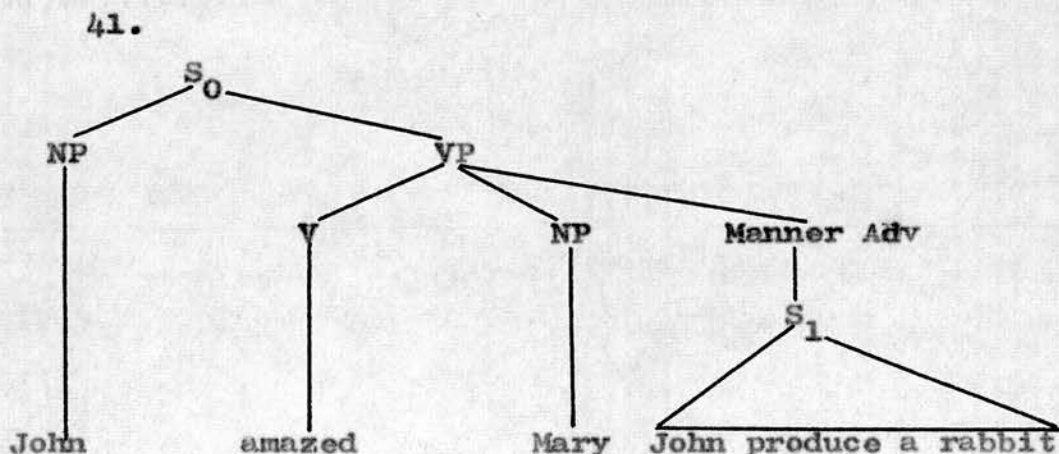
and thirdly on the idiosyncratic behaviour of certain verbs in that they do not imply the truth of their complement.

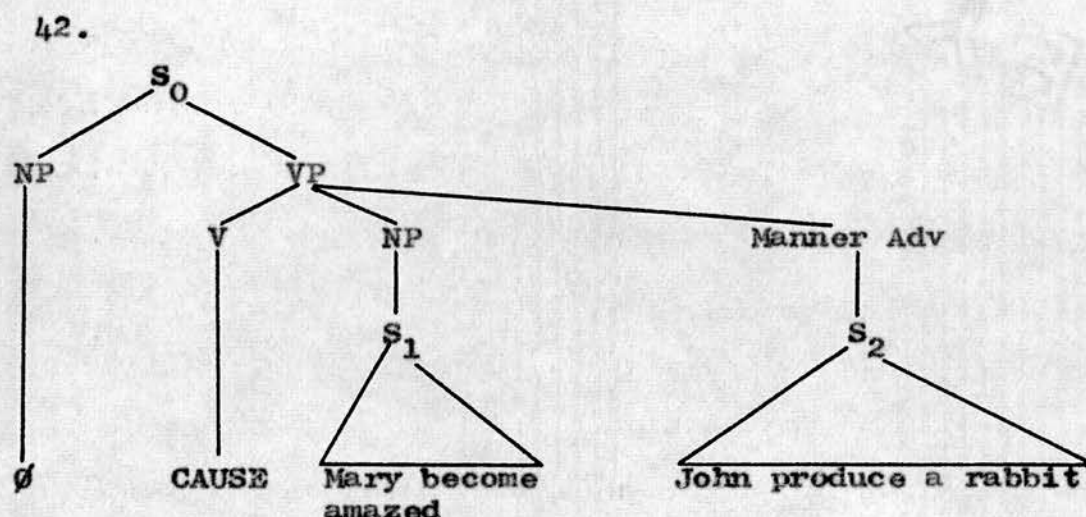
39. John suggested to Mary that pigs are stupid

To account for Lee's suggestion, we must, therefore, modify the structure given as 34 and the two structures underlying

40. John amazed Mary by producing a rabbit

will be the following:





Structure 41 will automatically account for the non-occurrence of nominalisations as subjects of sentences with method by-clauses since in these cases there is no empty subject node for the Manner Adv to move into. Other difficulties which we noted with structure 34 are more easily solved in that, for example, we can make the occurrence of purpose clauses dependent on the nature of the verb as opposed to the insertion of a lexical item in subject position, that is whatever factor is involved in selecting the verb from the category which includes amaze will also select the possibility of a purpose expression so that a structure with CAUSE cannot also contain such an expression.

While easing certain questions, however, the structures will not account for the occurrence of by and they also introduce their own problems. The basis of the criticism lies in the third argument relating to the idiosyncratic behaviour of certain verbs. Lee claims that 43a implies 44 while 43b does not:

43a. Possession of a ticket guaranteed Mary's admission

b. John guaranteed Mary's admission

44. It was certain that Mary could enter

That is, when we have a derived subject and an underlying CAUSE, then the sentence implies the truth of  $S_1$  but with an Agent subject and no CAUSE, this is not the case.

However, how, then, do we deal with the sentence in which the subject fulfils all the conditions of being an Agent and the verb still implies the truth of the complement, as in:

45. John cleverly guaranteed Mary that she could enter the meeting by giving her a letter written by himself

that is, the presence of the adverb cleverly shows that we are dealing with an Agent subject and a method by-clause, and moreover the sentence implies that Mary can enter. It is just the truth of this implication that Lee claims supports the analysis with CAUSE. Thus we are faced with a problem, either the underlying structure of 45 contains CAUSE, in which case Lee's whole analysis looks shaky or we allow the underlying verb GUARANTEE which selects a subject to be ambiguous, which again makes Lee's proposals less than satisfactory. The situation becomes more difficult with verbs like kill and break, since if the truth of the complement requires the presence of the predicate CAUSE, then how do we deal with the fact that kill and break always imply that someone is dead or something is broken without positing an underlying CAUSE?

As Lee himself observes, there are inadequacies on the semantic level, in that his structures do not account for the intuitively felt relationship between killing and causing to die. Related to this is the problem of



lexicalisation in general. How do we account for the fact that the verb in the surface structure of both 41 and 42 is amazed? Why should there be any identity at all?

Similarly why does CAUSE BECOME DEAD, a structure in an indirect causation structure, lexicalise as kill, a form which occurs in the structure underlying direct causation? Lee mentions the possibility that there is a second predicate corresponding to CAUSE but requiring a subject which is lexically specified. This predicate he represents as AGENTIZE. Further if direct and indirect causation do not have underlying structures with decomposed verbs, i.e.

something like AGENTIZE BECOME DEAD and CAUSE BECOME DEAD respectively, there is the further problem not only of why by occurs in by-clauses but of why it occurs in both method and causative by-clauses, that is the position which involves two completely different structures <sup>uses</sup> ~~loses~~ one possible structural identity which could condition the occurrence of by. As they stand, Lee's proposals are not sufficient to describe English. There are two main reasons for this: firstly, the hypothesis that only Agents occur in subject position in underlying structure and secondly, the use of the terms "direct" and "indirect causation" to refer to syntactic properties. Arising out of this discussion and that in Chapter 3 (see 3.2.1.), there are two hypotheses which we shall consider, firstly that there are two predicates DO, corresponding to Lee's AGENTIZE, and CAUSE, taking animate NPs and sentential subjects respectively and that the terms "direct" and "indirect causation" are to be related

to the relation between the verbal action and the object acted upon.

#### 4.2.2. Properties of DO and CAUSE

We discussed the relations between the surface forms cause and do and the predicates CAUSE and DO in the preceding Chapter (see 3.2.5. above) and we have suggested that CAUSE takes a predicative Abl and a predicative All (4.2.) which will capture the intuition that the verb cause expresses a particular type of relation between two events. Such a treatment will also prevent structures with CAUSE from containing a direct object or any noun denoting a person who is acted upon. The unacceptability of 46 will thereby be accounted for:

46. ?What did John cause to Bill?

This claim is, in fact, the parallel of Dowty's claim that his predicate CAUSE requires a sentential subject and a sentential object. It will also be a property of this predicate that the predicative All is true: that is if X CAUSES Y, then it is the case that Y occurred. Although we shall deal with this in detail below (see 4.4.2.), the fact that CAUSE marks a relation between two events will allow us to relate this predication to indirect causation. As we saw in the last chapter in our discussion of Fodor (Fodor, 1970 see 3.2.5.) indirect causation involves the non-contemporaneity of two events or actions.

The role of DO is more problematical. There are two basic questions: the first one concerns the relationship

between this predicate and all the occurrences of do. For instance, does DO occur in the underlying structure of sentences like:

47. Does John know the answer?

48. What these columns do is support the weight of the roof

The second question is whether, given that do in action sentences allows objects with various prepositions, we recognise different underlying predicates DO or handle these variations in some other way. There seems to be no firm answer to the first question without some more detailed analysis of the predicate DO itself, which is the task before us in this Chapter. However, there is one hypothesis which will guide our study and which may serve to exclude from consideration sentences like 47: if CAUSE is the predicate related to indirect causation, then it seems likely that the corresponding predicate for direct causation is DO and on this basis we can exclude 47 as not involving causation at all. We return to this question below (Chapter 6).

The second question can be approached by considering the following sentences:

49a. John ran home

b. What John did was run home

50a. John threw the book on the table

b. What John did with the book was throw it on the table

51a. John stabbed Bill with a knife

b. What John did to Bill was stab him with a knife



52a. John did a favour for Bill

b. John did Bill a favour

c. What John did for Bill can never be repaid

For the moment we can leave aside 49 as the verb does not have an object. The first problem concerns the relation between 50 and 51 where the contrast lies in the with-to alternation in the b forms, which we discussed in the preceding chapter (see 3.2.3.). Assuming that the subjects of these sentences i.e. John in both cases originates as the Agent from an Abl and that the verbal action has a structure containing DO and a nominal form governed by Abs which is incorporated into it (we argue for this position below (4.4.)), what case, then can we assign to the objects in 50 and 51? The occurrence of to suggests that we are dealing with an underlying All and as we shall see in the next chapter with typically marks a case complex which contains an occurrence of Loc. There are two ways of handling this difference. Firstly we might set up two predicates  $DO_1$  and  $DO_2$ , the first of which requires an object dependent on Loc and the second an object dependent on All. Secondly we might treat this difference as the consequence of some other factor in the underlying structure, for example in terms of what case is eligible for object-hood. As a matter of principle, the second approach is to be favoured, in that the former merely states that there is a difference and labels it with the sub-scripts 1 and 2, while the second involves presupposing that there is some identifiable pattern

behind this difference which is reducible to some deeper regularity. We shall look for this regularity in what follows, essentially it will involve the presence of the case Abs marking the case All or Loc.

The second problem concerns the relation between sentences 51 and 52. We have said that the object of 51 is governed by All and it was suggested earlier that Benefactives and purpose expressions are also to be treated as dependent on All. However, in this case it does appear that we need to set up two predicates or at least to allow structures which involve two DO predicates, one dependent on the other. One of these DO predicates will take direct objects expressing the person or object acted upon or who receives the action, and the other taking objects or predicates which express the person for whom the action is done and who receives benefit from the action or the reason for performing the action respectively. This is because there are sentences which contain both an All of the person acted upon and an All of the benefactee or purpose and we adopt from Fillmore via Anderson the constraint that any case can occur only once in any predication (Fillmore, 1971a, Anderson, 1976)

53. John killed Bill <sup>for Mary</sup>  
in order to please Mary

Notice that such an analysis for other languages receives more concrete support, in that Fillmore reports (Fillmore, 1971a) that in some languages the expression of Benefactives involves two overt predications, one involving a form like

give and the other the predication of the action, so that the following sentence has a form more closely paralleled by 55:

54. John sang for Mary

55. John gave his singing to Mary

Compare also English sing for the audience and give the audience a song.

#### 4.3. A Nominal Interlude

In this section we shall consider what evidence there is to suggest that there is no noun/verb distinction in underlying structure. The evidence is of two sorts: firstly, those analyses of English, whether Lexicalist or Transformationalist, which implicitly acknowledge close relationships between nouns and verbs, and secondly, certain morphological facts about languages which show a close relationship, if not absolute identity, between the two categories. We shall further explore the hypothesis in respect to our development of a Localist Case Grammar.

In the transformationalist literature we find it argued that adjectives are verbs (Lakoff, 1970), that adjectives are noun phrases (Ross, 1969) and that there is a class of "contentives" which contains nouns, adjectives and verbs (Bach, 1968). Schachter, 1973) shows that these arguments do not support the actual identity of these categories in the underlying structure so much as they support the Lexicalist Interpretivist position first proposed by Chomsky (Chomsky, 1970). Thus replying to Lakoff's argument concerning the stativity of adjectives



and verbs (Lakoff, 1970), Chomsky shows that nouns must also be subdivided in an exactly parallel way in that we find sentences with imperatives and progressive aspect:

56a. Be a hero

b. \*Be a person

57a. He's being a hero

b. \*He's being a person

Chomsky's position and that of the Lexicalists is that the relationships between the categories noun, adjective and verb can be captured by features.

"It is possible that the categories noun, verb, adjective, are the reflection of a deeper feature structure, each being a combination of features of a more abstract sort. In this way the various relations among the features might be expressible."

(Chomsky, op. cit.: 199)

Chomsky admits that this is speculation and needs more work and study before it can be made explicit. This has been carried out by Jackendoff (Jackendoff, 1974) who proposes the features +Subj, +Obj, +Comp. Thus noun, verb, auxiliaries and modals, quantifiers and articles are +Subj, while prepositions, particles, adjectives and adverbs are -Subj. +Obj distinguishes verb, auxiliary and modal, preposition and particle from noun, quantifier and article, adjective and adverb, which are -Obj. +Comp marks those categories noun, verb, adjective and preposition which can take some form of qualifier in their specifier: thus to each of them we have the corresponding quantifier or article, auxiliary or modal, particle and adverb. However, Jackendoff does not show that there is any actual empirical

difference between Lakoff's position and the Lexicalist one. In Lakoff's work, adjectives and verbs are distinguished according to the value of the feature  $_{+Adj}$  on the category symbol  $V$ , whereas in the Lexicalist the distinction will be in terms of the value of the features  $_{+Subj}$  and  $_{+Obj}$  but here these features are not features on a node but features which constitute a bundle forming a node.

However, it is Chomsky's treatment of nominalisations and his claims for the structures which are of importance to our present concerns. In opposition to the Transformationalists, Chomsky wishes to generate nominalisations directly in the base instead of deriving them from sentences. Chomsky does this by introducing the X-Bar Convention, which involves rule schema of the following form:

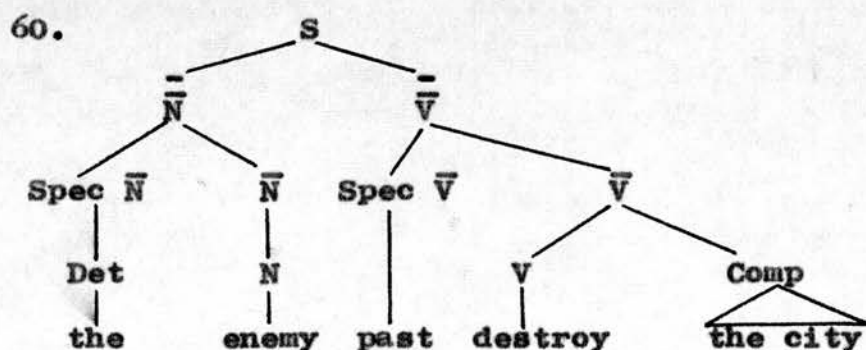
- i.  $\bar{X} \longrightarrow (\text{specifier } \bar{X}) (X)$
- ii.  $\bar{X} \longrightarrow (X) (\text{Complement})$

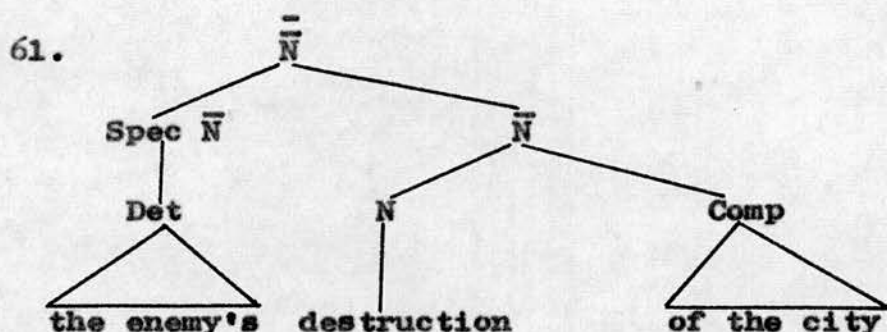
where the symbol  $X$  may have substituted for it  $N$ ,  $V$  or  $Adj$ . Thus for the underlying structure of

58. The enemy destroyed the city

59. The enemy's destruction of the city

we have the following:





The important consequence of Chomsky's proposals is that many rules and operations must be defined so that they operate both on S and  $\bar{N}$ . The rules which Chomsky discusses with respect to this point are NP-preposing and Agent-Postposing. The Passive marker, i.e. by +  $\triangle$  is treated as a constituent of Comp so that it may appear in both of the above structures: if this is the case then Agent-Postposing applies to place the enemy after the verb so that NP-Preposing may move the city into the now vacant subject position, to produce the "passive" forms

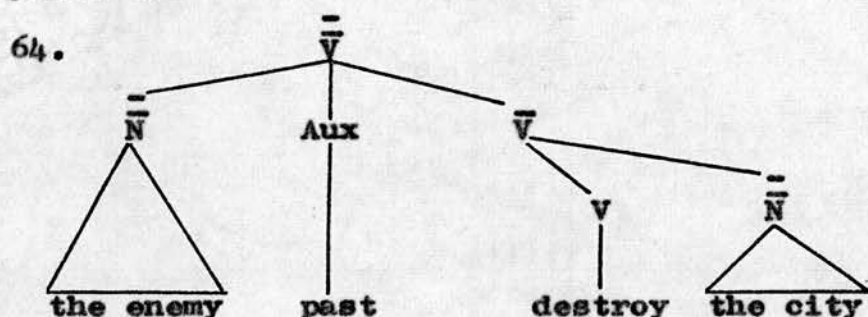
62. The city was destroyed by the enemy

63. The city's destruction by the enemy

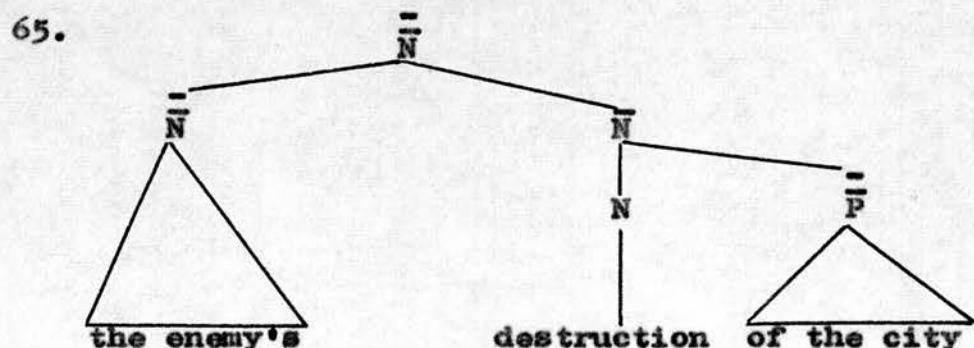
Before looking at the above structures more closely to show their relevance to the question of noun-verb identity, there is another claim of Chomsky's that must be considered; namely that the subject and object relations can be defined on S and NP. Again this shows the similarity of S and NP, but the important point is that in Chomsky it remains a claim and is not substantiated. Although, as Chomsky claims, the above structures 60 and 61 are mirrors of each other, he does not show that they mirror each other closely enough to allow these relations to be defined in a unitary manner.



This task is carried out by Jackendoff (Jackendoff, 1974) who shows that it entails what are from our present point of view some interesting alterations to 60. Thus in this structure  $\bar{V}$  corresponds to PredP which governs Aux and VP i.e. Spec  $\bar{V}$  and  $\bar{V}$ . An alternative analysis will have Aux directly dependent on S. Jackendoff further suggests that we remove the category Spec  $\bar{X}$  completely from the grammar, and proposes as the resulting structure to replace 60



Thus whereas in 60 and 61 the subject is dominated directly by S and by the Spec  $\bar{N}$  node, which latter makes the subject look more like the auxiliary node i.e. the Spec  $\bar{V}$  of the VP, in 64 and the likewise modified 61, see 65 over, since Spec  $\bar{N}$  has been removed, the subject in both cases is the  $\bar{N}$  which is dominated by  $\bar{N}$  and  $\bar{V}$ . Notice that now S is removed from the grammar and replaced



by  $\bar{V}$  and we can unify the treatment of cyclic category,

that is instead of listing NP and S as defining the domain of the transformational cycle we can now say that anything marked with the double bar defines the domain of the cycle. It is also now quite clear that what distinguishes Nouns from Verbs is the possibility of tense and aspect occurring only with the latter, but then if these are treated as higher predicates as Generative semanticists do (see McCawley, 1971b), the category Aux can be removed, as can the rules introducing aspect in the VP making the parallel between the two even closer.

Chomsky's proposals also come in for some criticism from Stockwell et al (Stockwell et al., 1973), criticisms which also bear on the noun-verb relationship. They try to refine Chomsky's structures, in particular by introducing cases into the underlying structures, that is, they wed the Lexicalist approach to a Fillmorean case grammar.

They point out (Stockwell et al., op. cit.: 5) that Chomsky's arguments depend in part on the assumption that whether the symbol X used in the X-Bar convention was V or N, the corresponding structures, whether  $\bar{V}$ ,  $\bar{N}$ ,  $\bar{V}$  or  $\bar{N}$ , exhibit significant parallels. Their counter-claim reduces to the fact that in structures 60 and 61 there are parallels, but they are of the sort which do not admit of a straightforward capturing in a Subject-Predicate analysis and that one of the major features harming this is the presence of Spec  $\bar{V}$ , corresponding to the Aux of earlier grammars. Related to this is the fact that in 60, the enemy stands outside the  $\bar{V}$  but in the corresponding nominalisation

the enemy's is inside the  $\bar{N}$ , i.e. as Spec  $\bar{N}$  it is a constituent of  $\bar{N}$ . These are essentially the points which Jackendoff's analysis tidies away, but it is of interest to see what conclusions Stockwell et al. draw from them.

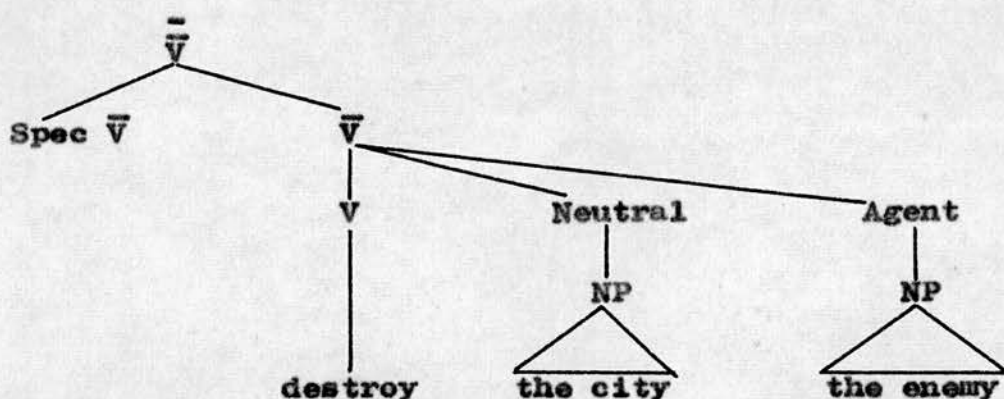
Stockwell et al. point out (Stockwell et al., op. cit.: 6) two further problems for a X-Bar convention in a Subject-Predicate analysis. Given that the enemy is in the same relation to destroy in 60 and destruction in 61, under the Lexicalist hypothesis embodying the Subject-Predicate analysis, this must be attributed to configurational similarities. Stockwell et al. question the feasibility of this and observe further that it is difficult to motivate representing in a uniform manner the requirement that the subject of the verb destroy and the genitive phrase with destruction must both be +Concrete. The second problem relates to Chomsky's treatment of passivisation and the corresponding nominalisation the city's destruction by the enemy. In both cases Agent-Postposing applies and then subsequently NP-Preposing. However, this raises a problem in that while there are no passives without subjects, i.e. NP-Preposing is obligatory with verbs, there are nominalisations without genitive phrases i.e. the destruction of the city by the enemy. They treat this latter as the result of non-application of the Case-placement rules.

A closer view of the relationship between nouns and verbs is given by considering the structures which Stockwell give to replace 60 and 61. Notice firstly that their

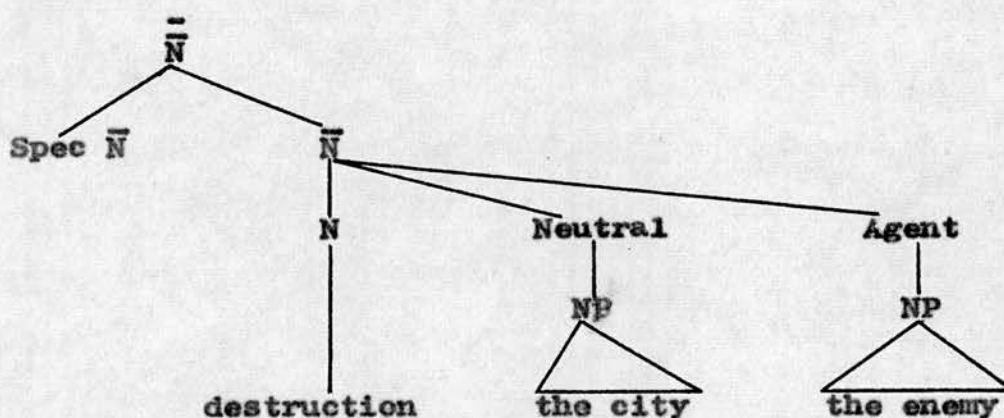


grammar embodies the claim that in the underlying structure nouns may take the same array of cases as verbs, which again makes nouns and verbs look alike. Thus the structures they propose are the following:

66.



67.



Notice that the parallel here is complete between  $N$  and  $V$ , ignoring the fact that Stockwell et al. introduce the category  $\text{NP}$  into a structure conforming to the X-Bar convention.  $\text{Spec } \bar{V}$  here parallels Fillmore's Proposition (Fillmore, 1968) and  $\text{Spec } \bar{N}$  allows for determiners and the fronting of either of the two cases. There are two major points to make. Firstly the structures parallel Jackendoff's in emphasising the relation and parallels

between nouns and verbs, and similarly like Jackendoff's in having  $\bar{V}$  as the initial symbol make the structures look as if we are dealing with a verb-dependency grammar, i.e. one in which the nuclear element is the verb on which all entities are dependent either directly or indirectly. Secondly structure 66 also captures a significant point made by Lyons, although Stockwell et al. were apparently unaware of this. Lyons (Lyons, 1968) makes the point that just as deictic elements such as this that, i.e. items of the Determiner or Spec  $\bar{N}$  locating the noun with respect to the speaker, so the category of tense "relates the time of the action, event or state of affairs referred to in the sentence to the time of utterance. Tense is therefore a deictic category..." (Lyons, op. cit.: 305). Thus the role of the Specifier is to locate some entity, whether it be located in space, Spec  $\bar{N}$ , or in time, Spec  $\bar{V}$ , which seems to involve a Localistic analysis. This point also ties in with related suggestions of McCawley (McCawley, 1971b), Anderson, (Anderson, 1973) and Kiparsky (Kiparsky, 1968) among others, namely that tense is derived from a higher predication or in the work of the last mentioned is a sort of concord marker between the verb and a temporal adverb.

#### 4.3.1. More Concrete Arguments

Before looking in more detail at arguments for the relationship, if not identity, of nouns and verbs, we must pause and look more closely at what we are claiming. In the last section we noted that Chomsky (Chomsky, op. cit.)

wants certain transformations, i.e. Agent-Postposing and NP-Preposing to apply to NP and S. In a dependency grammar these will correspond to N and V, so that the claim can be altered to state that the transformations cycle both on N and V. Chomsky also wishes to define the notions "subject" and "object" on S and NP, which translated into case grammar terms in the fashion of Stockwell et al. comes to the claim that nouns and verbs allow the same array of cases. Similarly nouns and verbs can be given a location, one in space, the other in time. This, in fact, appears to be the crucial difference between them as noted, for example, by Key among others (Key, 1874)

"Of course, when from a verb we subtract all that denotes person and time, we arrive at a residuum, which one person may call an abstract substantive and, another, a verb or symbol of an act

(Key, op. cit.: 70)

It seems to be the case that there is syntactic identity between nouns and verbs in that they have essentially the same structure and cases dependent on them in underlying structure. If it is the case that what distinguishes them above all is the occurrence of tense and aspect markers with verbs and if it is the case that tense and aspect are higher predications, then strong support for the identity of nouns and verbs in underlying structure would be found if it were the case that only Root transformations applied to verbs, i.e. to those head elements in the highest predication which will involve tense while both Structure-Preserving and Local transformations



applied to both nouns and verbs, (for these notions seemonds, 1976). We cannot explore this possibility fully here, but we shall survey what evidence there is in the literature which involves transformations and rules of semantic interpretation cycling on NP and S.

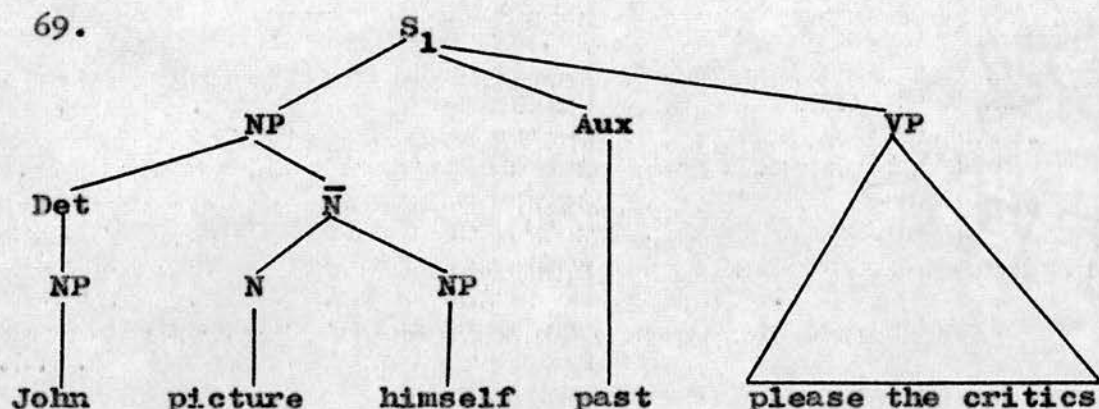
#### 4.3.1.1. Interpretivist Arguments

In this section we shall review arguments for relationships between nouns and verbs which are due to properties of the Interpretivist descriptions of English. The first two arguments, Reflexivisation and Complement Subject Deletion, result from the conjunction of the Lexicalist Hypothesis and the claim that no transformations may refer to semantic properties of the sentence. It follows from the latter that pronominal and reflexive forms are to be generated directly in the base and then interpreted by the semantic rules. Similarly, there is no rule of Complement Subject Deletion, rather there is no lexical item inserted in the subject NP, and the symbol  $\triangle$  is interpreted as co-referential with some higher NP.

According to Jackendoff's treatment (Jackendoff, 1972) the structure of

68. John's picture of himself pleased the critics  
will be something like

69.



The interpretive rule of reflexivisation must then be allowed to cycle on NP in order for John and himself to be entered in the Table of Co-reference as co-referential. That the interpretive rule of Complement Subject must also cycle on NP is shown by a consideration of that old sentence without which no work on linguistics is complete, namely,

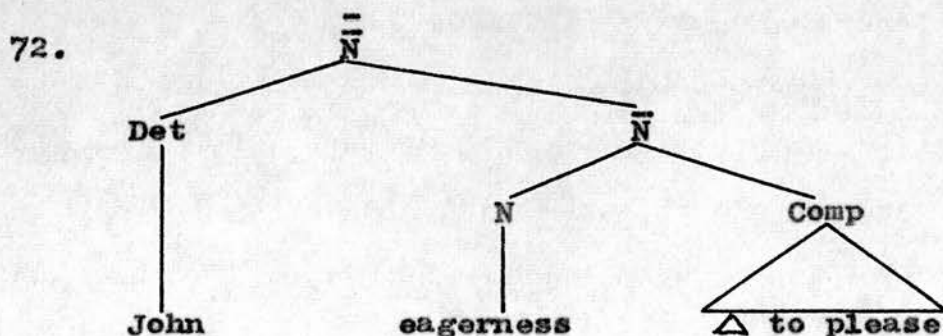
70. John is eager to please

which we may represent in the deep structure as:

71.  $(_{S_1} \text{ John is eager } (_{S_2} \triangle \text{ to please})_{S_2} )_{S_1}$

On the last cycle, i.e.  $S_1$ , the Complement Subject rule will apply to mark John and            as co-referential.

Corresponding to this sentence we have the derived nominal John's eagerness to please, which has the underlying structure:



Again, in order that John and  $\triangle$  can be marked as co-referential, the Complement Subject rule must cycle on NP or  $\bar{N}$ . There is a third argument based on Interpretivist ideas, but involving the rule of Modal Projection, but since it is of essentially the same form as the two above we shall not go into it fully.

#### 4.3.1.2. Theory neutral arguments

By a "theory neutral argument" we understand an argument which shows a relation between nouns and verbs whether the data is accounted for in an interpretive grammar by means of a projection rule or a transformation or in a transformational grammar by means of a deletion or movement transformation. Jackendoff (Jackendoff, 1971) provides one such argument. He is concerned with the rules of Gapping and VP-Deletion and the constraints placed on them. Gapping is a rule which accounts for the following (examples taken from Jackendoff):

73. Max ate the apples and Bill the pears

74. Ivan plays the Krummhorn, Bill the fluegelhorn  
and Schwarz the bassethorn

and VP-Deletion operates in case the verb phrases are completely identical, always leaving behind one or more auxiliary verbs, thus:

75. Max ate the apples and Bill did too

76. Either Ivan will write the play or Boris will

Jackendoff observes that just as Gapping deletes material from the middle of a phrase, we find other sentences where the gapped material is not a verb:



77. Bill's wine from France and Ted's from California  
cannot be compared

Jackendoff calls this  $\bar{N}$ -Gapping and suggests a parallel form for VP-Deletion in a rule of  $\bar{N}$ -Deletion which accounts for sentences like:

78. Bill's story about Sue may be amazing, but Max's  
is virtually incredible

We cannot discuss the details fully here, but Jackendoff shows that there are certain factors common to Gapping and  $\bar{N}$ -Gapping on the one hand and VP-Deletion and  $\bar{N}$ -Deletion on the other which can be accounted for by adopting the X-Bar Convention and having two rules  $\bar{X}$ -Gapping and  $\bar{X}$ -Deletion, where X may be either N or V.

Akmajian has further evidence for the necessity of cycling on S and NP based on the rule of Extraposition and the rule of Extraposition of Prepositional Phrase (Akmajian, 1975). Extraposition is a rule which takes a sentential subject and moves it to the right of the verb and is a "rightward bounded" rule (Ross, 1967), so that it can only move the S to the right of the next highest verb, that is 79a is a possible sentence while 79b is not:

- 79a. That it's obvious that the world is round is not clear

- b. \*That it's obvious is not clear that the world is round

Extraposition of Prepositional Phrasepostposes complements from NPs:

80. A review of this book will appear shortly

81. A review will appear shortly of this book.

This rule must also be rightward bounded, as is shown by the

following:

- 82a. That a review of this book will appear shortly  
is certain
- b. That a review will appear shortly of this book  
is certain
- c. \*That a review will appear shortly is certain of  
this book

Thus essentially the same constraint must be placed on two rules, but these two rules can be collapsed as one if we have one rule of Extraposition which can cycle on NP and S.

#### 4.3.1.3. Transformationalist arguments

Although the first argument is not strictly speaking restricted to a transformationalist approach, the rules with which we are dealing are to be found more generally in such grammars. Both arguments are to do with the treatment of nominalisations, and involve the derivation of action nominalisations, that is those formed in -ing, having the internal structure of a noun phrase and having a paraphrase in the act of. Following Katz and Postal (Katz and Postal, 1964) we also include such constructions as:

- 83a. The time of John's arrival
- b. John's time of arrival
- 84a. The manner of John's arrival
- b. John's manner of arrival

Katz and Postal (Katz and Postal, op. cit.), Fraser (Fraser, 1970), Newmeyer (Newmeyer, 1970) and Stockwell et al.

(Stockwell et al., 1973) all adopt a similar analysis of such nominalisations. Thus the underlying structure will be something like:

85. the act (<sub>S</sub> John drive the car)<sub>S</sub>

and the following rules apply in the order given,  
OF-Insertion, Gerund Formation, NP-Preposing, Nominalisation,  
Poss-Insertion to give the following derivation:

86a. the act of (<sub>S</sub> John drive the car)<sub>S</sub>

b. the act of John driving the car

c. John act of driving the car

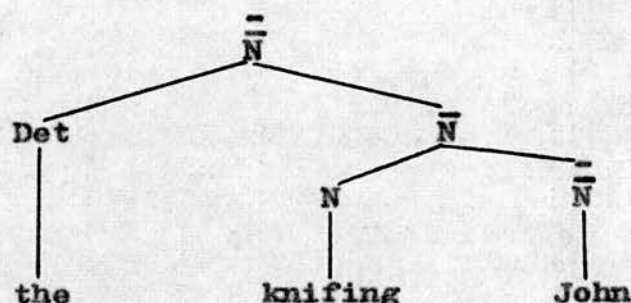
d. John driving of the car

e. John's driving of the car

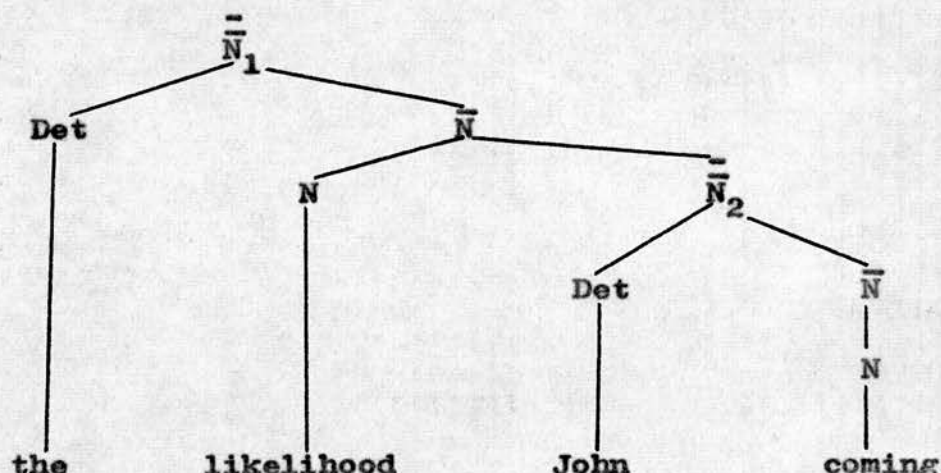
We follow here the rules given by Newmeyer (Newmeyer, op. cit.). In this derivation there are two rules which interest us, firstly NP-Preposing and secondly Nominalisation. The effect of NP-Preposing is to take the subject of the embedded sentence and place it before the "head" noun act. Although he does not commit himself, Newmeyer suggests that this may be the same rule which Chomsky (Chomsky, 1970) and Bowers (Bowers, 1969) propose to relate the knifing of John and John's knifing. Chomsky, also suggests that this same rule of NP-Preposing relates the likelihood of John's coming and John's likelihood of coming. In fact there is every reason to believe that we are dealing with two different rules here. Notice that the first rule of NP-Preposing takes John which under Chomsky's analysis is dominated by the  $\bar{N}$  which also dominates knifing and preposes it. However, in the second case, the element which moves, namely John, is not dominated by the  $\bar{N}$  which dominates likelihood, that is, we are dealing with two different structures:



87.



88.



Thus NP-Preposing is a rule which applies across clause boundaries, as Chomsky allows, but if it is to be a rule applying within simple sentences, as is more common in Transformationalist approaches, then we cannot have one rule of NP-Preposing applying to both 87 and 88. If there is to be just one rule, then we need another rule which will move John out of  $\bar{N}_2$  in 88 and attach it to  $\bar{N}$ . Newmeyer does not argue explicitly for this in his 1970 paper, but he does have an argument against Chomsky's NP-Preposing rule which shows some problems for it. Thus while 89a does transform to 89b, there is no reason under Chomsky's analysis why 90a does not transform to 90b:

89a. the likelihood of John's coming

b. John's likelihood of coming

90a. the filming of John's slaying the dragon

b. \*John's filming of slaying the dragon

Newmeyer suggests that this can be captured in terms of subject-embedding versus object-embedding. However, there is another means of accounting for this and also reducing the two rules of NP-Preposing to one which will account for 87 and 88 and their transforms. This involves the extension of an already motivated rule, at least in the Transformationalist literature. This rule usually goes under the name of Raising and has the required effect of raising a subject into a higher clause, (see Chomsky, 1973 and Postal, 1974 for the controversy over this rule).

Raising relates such strings as:

91a. John believes that Bill is a fool

b. John believes Bill to be a fool

92a. John believes that he is God's gift to women

b. John believes himself to be God's gift to women

where the reflexive form in 92b is taken by Transformationalists to show that in the underlying structure himself, or the occurrence of "John" which reflexivises, is in the same sentence as the subject, i.e. they are clause-mates.

Raising, then, takes the subject of an embedded sentence and moves it into the clause that immediately dominates it.

Newmeyer, (Newmeyer, 1974) has called the rule which has the same effect but with nominals Boosting, that is there is a rule which operates on structures like:

93. the manner of John's driving

and attaches the subject of driving to manner, to produce

94. \*The manner of John's of driving

NP-Preposing can then apply and front John's. Notice that

NP-Preposing here is obligatory, but there are structures paralleling 94 where it is optional:

95a. That manner of John's of driving carelessly about the streets

b. That habit of John's of refusing to concede defeat in the face of overwhelming counter-examples

Thus Boosting is a parallel of Raising distinguished only by the fact that it applies when the "head" is a noun. Such a rule accounts also for 90b, in that if Harold is to be in a position where NP-Preposing can apply, then Raising must have operated to move it into the next higher sentence, but this sentence contains the element film which is not a Raising verb or noun.

Thus we have two rules, the first one being Raising applying when there is a verb and the other being Boosting applying when there is a noun. By removing the noun-verb distinction from the grammar we can conflate these rules as one. Notice that this rule is not restricted to such nouns as likelihood, manner, time etc., as it may well be at work relating such pairs as:

96a. a man for you to watch

b. your man to watch

97a. the book for you to read

b. your book to read

Boosting, like Raising, also seems to be an optional rule and may apply without subsequent NP-Preposing. The important point about this rule is that it destroys the context for Poss(essive) Formation in the lower sentence, that is the noun moved is no longer dominated by the "head"



noun (compare this with Raising which prevents tense formation) and we do find structures which differ solely in the presence versus absence of a possessive:

98a. the likelihood of John's coming

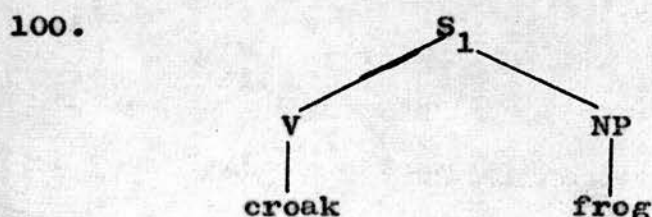
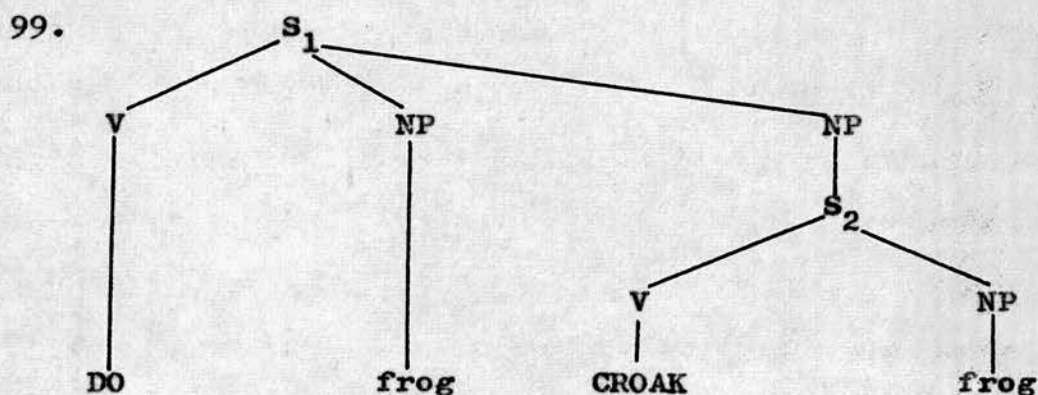
b. the likelihood of John coming

The second point which we said is of interest in the derivation of nominalisations proposed by Katz and Postal et al. concerned the rule of Nominalisation itself. This is a rule which replaces the nouns act or manner by the gerund, i.e. 86c becomes 86d:

86c. John act of driving the car

d. John driving of the car

However, we must ask what the difference is between a rule which replaces a noun with a gerund and a rule which is responsible for relating the following structures found in Ross (Ross, 1972):



that is, where the verb of the lower S has been Predicate-Raised into the V of the higher S. Thus we have one rule

which raises a verb into a higher verb and another which raises a gerund, i.e. a noun, into a higher noun. Again, removing the noun-verb distinction allows us to conflate these rules as one. Notice also that the rule of gerund formation itself may be an artefact of the theory to ensure that a category will only raise into a higher occurrence of itself. However, there is good reason to doubt whether this is, in fact, the case, and here we must turn to the rule of Incorporation proposed by Gruber (Gruber, 1965) and adopted by many linguists. Thus, as we have seen, Fillmore (Fillmore, 1971d) derives John swam across the lake from a structure which surfaces in a less deformed state as John moved across the lake by swimming by means of a rule which incorporates the by-clause into the verb. Similarly McCawley, (McCawley, 1971a) proposes a rule which combines nouns like hammer, nail, paste, saw with the complex predicate BY CAUSE to produce surface verbs like to hammer, to nail etc. (for similar proposals see further examples in Nilsen, 1973). In this case we are dealing with the raising of a noun into a verb, while above we had examples of verb-verb and gerund-noun raising. By treating verbs as a head noun plus tense marking as suggested above, we can reduce these different rules to one single rule of raising.

#### 4.3.1.4. Other evidence

We mentioned above that there is also data from the surface structure of English which supports the identity of noun and verb in the underlying structure and this bears

mainly on Ross's arguments for a structure like 99 as the deep structure of The frog croaked, that is there are certain structures in English which suggest that there is an NP underlying each verb. Consider the following:

101a. What did John do?

b. What happened to John?

c. What did John see?

102a. What John did was open the window

b. John saw the new film

c. John saw his own death in a dream

What is usually analysed as the surface form of a structure like wh-something (see Stockwell et al., 1973) but in this case 101c and the corresponding 102b and 102c prove difficult. In the former what quite evidently questions a noun, i.e. what thing did John see, but in 101a and 102a, what is put in relation with a VP, i.e. open the window. Now we can either have two whats, one for nouns and one for VPs or posit an NP underlying verbs.

However, besides the question of what, there is also the phenomenon of S-Pronominalisation (see Lakoff, 1970), which is said to operate in sentences like:

103. Goldwater won in the West, but it did not happen  
in the East

In both cases, besides many others discussed by Ross (Ross, 1972) we can simplify the grammar by positing an NP underlying the verb. The problem is that Ross has this NP dominating another S and the question that we must ask is whether there is any evidence for this other S. If, in fact, it is the case that there is no S without tense



marking, then there is no reason to believe in the existence of this embedded S, since in the examples given, the tense of the lower S must always be the same as that of the higher. There is, therefore, no reason to believe that a structure which we can represent as 104 could lexicalise as The frog croaked

104. Past ( $S_1$  DO frog ( $S_2$  Past ( $S_3$  CROAK frog) $S_3$ ) $S_2$ ) $S_1$

Therefore it is easier to assume that there is no S involved, but rather a simple NP dominating croak, so that we prevent the occurrence of such unacceptable structures. Notice that such a structure involving the predicate DO and two NPs, one dominating the frog, the other croak could also surface as

105. The frog gave a croak

Further support for the underlying NP of all verbs is found in the frequency of verbs which have paired with them a morphologically related noun. There is a highly restricted set of verbs which may occur with these nouns to produce verbal complexes having the same meaning as the simple verb (for further discussion and examples see Liefrink, 1973 and Olsson, 1960). Thus we find the following:

GIVE: comfort, help, an order, advice, promise, glance, kick, shock etc.

HAVE: a smoke, wash, shave, look, chat, try, swim etc.

TAKE: a look, drive, shave, swim, drink, walk, etc.

However, if all verbs have underlying NPs, what is the status of those verbs which occur in complex verbs? Three different scholars all point in the same direction in this

respect: firstly we find in the earliest works on Transformational grammar a rule of Do-Support, which introduces the form do to carry tense, aspect and person markings (Chomsky, 1957) related to this is Lyons' suggestion (Lyons, 1968) that BE carries the "specification of certain distinctions...when there is no verbal element to carry these distinctions. Finally, Jespersen, in a discussion of complex verbs and their related simple forms, remarks of them:

Such expressions, instead of the simple verb, are in accord with the general tendency in Modern English to place an insignificant (auxiliary) verb, to which the markers of person and tense are attached, before the really important idea.

(Jespersen, 1933: 71)

All seem to suggest that these verbs are there to carry tense and person markings. Notice that there is the problem of why it is just these verbs, namely, be, become, have, make, put, give, take which are used, but such a question deserves a thesis to itself, and we shall not concern ourselves with it in what follows except insofar as it may throw light on our discussion and the Localist Hypothesis.

Thus we can see that there is good evidence to believe that the noun-verb distinction is a surface structure feature of English introduced on the last cycle when tense is relevant. However, there are languages where even the surface structure distinction is weak, if there is any distinction at all. Thus Interpretivists claim that the notion of Subject is defined on NP and S and in general the



subject in an unmarked case or in a nominative case while the subject of an NP is marked with a possessive form. Allen (Allen, 1964) gives examples from many languages where the subject of transitive sentences and possessors, i.e. the subject of an NP, receive the same marking. These languages are not restricted to one Language Family or linguistic area, so that it is not simply a question of genetic or areal influence. Thus in Indo-European languages, we find some relationship between the marking of the possessor and the transitive subject in the perfect aspect, i.e. John has a book/killed Bill. It is on the basis of such a parallel that Georgian is said to be an Ergative language, thus why should English not be called an Ergative language in the perfect and why should not French and Middle English be even more of an Ergative language given that they distinguish between the Agent as subject or a perfective verb, avoir, to have and a non-Agent as subject, être and to be.

Languages where the identity of marking of possessor and subject of the transitive verb is not restricted to one aspect include Hungarian, Delaware, Yurok, Taos, Kechua, Yawelmani (the last five being American Indian languages) the Caucasian languages, Abaza, Kabardian, Unykh, Lakk. The most commonly quoted language which shows this identity is Eskimo, and we take examples from Mey (Mey, 1970).

Consider the following:

- |                           |                               |
|---------------------------|-------------------------------|
| i. tiguva-a 'he holds it' | iii. tiguva-i 'he holds them' |
| ii. nuna-a 'his land'     | iv. nuna-i 'his lands'        |



In i and iii there is no surface form corresponding to English he and the opposition a-i marks singular and plural of the object. In ii and iv, there is no overt marking of the possessor, but the a-i distinction appears with what is a noun in English to mark singular and plural.

- v. tiguva-a-t 'they hold it'      vi. tiguva-i-t 'they hold them'  
vii. nuna-a-t 'their land'      viii. nuna-i-t 'their lands'

Third person plural is marked by attaching the suffix -t to the "verbal piece", and likewise in vii and viii the possessor plural is marked by attaching the same form to the "nominal piece", that is, with transitive verbs and possessed nouns, there is no overt feature which can be used to distinguish between them, which leads Hammerich (Hammerich, 1936) to say that "every Eskimo verbal form has to be considered as an original substantive". Notice, however, that Mey uses the same data to argue for a desentential source for possessives.

We find the same identity of possessor and subject of a transitive verb when there is a full noun present in the sentence, thus:

- ix. ajuqi-p palasi akiva-a  
'the catechist-relative sing. minister  $\emptyset$  answers'  
x. ajuqi-t palasi akiva-a  
'the catechist-relative pl. minister  $\emptyset$  answer'  
xi. ajuqi-p nuna-a 'catechist-relative. sing. land-sing.'  
xii. ajuqi-t nuna-a-t 'catechist-relative pl. land-sing-relative pl.'

Eskimo, then, serves to exemplify another point of similarity

between nouns and verbs: that is, just as subjects and possessors may receive similar or identical markings, so the "head" element whether noun or verb, may receive similar or related markings. Garnett (Garnett, 1846-50), in an episodic paper, gives examples from many languages which exhibit this phenomenon. Thus, for example, he cites the Coptic form ti-, meaning something like gift. By adding the 2nd and 3rd person singular suffixes to this, i.e. ti-f and ti-n are formed the verbal forms "you give" and "he gives" respectively. However, if the definite article is affixed to these forms, then the same forms are to be interpreted as "your gift" and "his gift".

Besides taking forms corresponding to personal pronouns, there are languages where forms corresponding to English verbs are to be analysed as a noun plus a case ending, where this expresses tense or aspect. Thus Garnett (Garnett, op. cit.: 215) cites a form khoachara from a Manchu dialect which is to be analysed as khoacha "nourishment" and a particle meaning "for, at, to", and which means "for nourishment". By affixing the first person pronoun, the same form comes to mean "I shall nourish". Anderson (Anderson, 1973b) gives many examples of languages where tense and aspect are marked by affixing a basically locative case element to a nominal stem.

To sum up, we have reviewed three sorts of evidence for evidence for the identity of nouns and verbs; firstly, there are the many rules which must be allowed to cycle on domains defined by both noun and verb, given that verb is



the "head" of a sentence in a verb-dependency grammar, secondly, there are many constructions in English which suggest that there is some nominal form underlying every verb (for arguments for this position taken from Russian see Miller, 1973) and thirdly, we have seen that there are many languages in which the distinction between nouns and verbs is either impossible to draw or is at least not so clear-cut as it appears to be in western Indo-European languages. Thus we shall assume in the rest of our grammar that there is no noun-verb distinction at the deepest level, and that this is introduced on the last cycle of the transformations when tense becomes relevant. The rest of this study can be looked on as providing the weakest form of support for this hypothesis if we manage to sustain it, namely the support that comes from its being able to account for the form and meaning of English sentences.

#### 4.4 Grammatical Development

Following Anderson (Anderson, 1972 and 1976) we assume that there is a set of formation rules which create hierarchies of predications, each corresponding to a sentence of English. The actual form and nature of such rules we leave for the moment returning to them briefly in the last chapter. For the moment we are more concerned with the hierarchy of predications and the operations which apply to them. In the light of the last section, we further assume that a predication will consist of a head N plus two or more cases dependent on it, each of which governs a further N which may itself be the head noun of a predication or the head noun of



what will surface as a noun phrase.

The highest predication will be the tense predication, in which the Abs will govern the aspect predication and the Loc will introduce the tense element. The aspect predication will contain an Abs, corresponding essentially to the subject of the sentence and either Loc, Abl or All which correspond to progressive, perfective or ingressive aspects respectively (see Anderson, 1973). The local case in the aspect predication governs the predication which introduces the propositional core of the sentence.

Given the hierarchy of predications, the next operation is one of semantic specification, that is the head nouns and certain other nouns have semantic material inserted. We say certain other nouns since we assume that for each actant (to use a term borrowed by Fillmore, 1970, from Tesnière (Tesnière, 1959)) there is only one semantic specification, that is given a hierarchy of predications in which there are several occurrences of Ns which are co-referential, then only one of those Ns is semantically specified by the rules of semantic specification. The marking of co-referentiality is carried out by the rule of Raising (or possibly rules of Raising). Thus Raising will be a rule which takes the semantic specification of one noun and enters it into the noun of a higher predication, or alternatively marks a lower unspecified noun as co-referential with a higher specified or unspecified noun.

Given such a rule, it is evident that we need to impose some constraints on its operation. We could allow

the rule to apply blind and raise any noun into any other, but this would result in the production of many examples of "garbage", i.e. structures which do not correspond to any well-formed sentence of English. Thus we need some form of constraint. Assuming that it is the governing case which controls Raising, we could recognise two forms of this rule, one which raises N into a higher N if both are governed by the same case and one which raises N if the cases are not identical. However, this latter rule itself will need some restrictions and we can do this in terms of introducing the notion of case complexes. This entails having formation rules which produce a head N and the cases dependent on it and then further rules which will optionally add a further case to each of the "primary ones". Thus the non-identity rule of Raising can be reduced to the Identity rule of Raising in that the noun into which the semantic specification is raised will be governed by a case complex containing an occurrence of the case governing the lower N. Thus Raising is a rule raising a semantic specification into a higher N governed by case  $K_i$  if the lower N is itself governed by  $K_i$  or if it is governed by  $K_j$  and  $K_j$  occurs in the case complex of the higher N. With respect to the Raising rule we make one further assumption, namely that it applies cyclically and the output of cycling on all predications is a semantic predication.

In essence we are claiming that the relations of dependency, the thematic relations of interpretive semantics (see Jackendoff, 1972) and co-reference can all be defined



on one level of the grammar and further that together they provide all the information necessary for moving from "deep" structure to surface syntactic structure. This entails further that order is not relevant in the "deep" structure, that is, there are no ordering relations between the head N and the dependent cases: the only relevant relation is that of dependency (see Anderson, 1976). Thus order will solely be a property of surface structure and can be defined in terms of the conditioning factors of dependency, case relations and co-reference. Hence order is an accidental property of surface structure, a mechanism used in communication and not a necessary property of the message itself.

With respect to the cases themselves, we have already suggested that only four of these are necessary, Abs, Abl, All, Loc. However, they have one property which we have not mentioned, that is, they are hierarchically ordered in a manner similar to that of Fillmore's case hierarchy. This order is Abs, Abl, All and Loc and corresponds roughly to saying that given an operation X, it will apply to Abs before Abl. If there is no Abs available, then it will apply to Abl. If there is no Abl, it applies to All and if no All, then it applies to Loc.

The output of the Raising rules will be a specified semantic representation and to this will apply the realisational rules which will be essentially Linearisation and Lexicalisation. We shall consider the actual properties of such rules as we develop the grammar, but of



Lexicalisation we can say that it is essentially a set of conditions on what bits of semantic structure can be lexicalised as one item and further conditions on what bits of semantic structure can actually be lexicalised. At this point we must consider the relation between Deletion, Pronominalisation and Lexicalisation in standard T.G. works.

Little attention has been paid to the relationships between the processes known as Lexicalisation, Pronominalisation and Deletion in the literature of Transformational Generative grammar, although it is the case that these relations are more crucial in the Generative Semantics model. All three depend on the co-reference of two items and in fact seem to be related in terms of a hierarchy, reflexivisation, pronominalisation and deletion, the controlling factors being the clause-mate condition, command relations and various control factors such as Equi-NP deletion. With regard to Deletion, there is the further problem of exactly what is deleted. In terms of a case model is it the whole case and everything that it governs, or simply the dependent noun and its dependents? There is reason to believe that it is solely the noun: that is, for subjects and objects at least we can account for the non-occurrence of prepositions in terms of general constraints on the realisation of case relations, but with prepositional phrases it seems that in certain cases only the noun is deleted leaving the possibility of a preposition: such a situation will presumably account for the prepositions with, against and in, which occur in the following:

106. John used the knife to cut the salami with

107. John used the wall to lean the ladder against

108. John used the class-room as a place to propagandise in

However, in what way is Lexicalisation relevant to these questions? Let us make the presumably unobjectionable assumption that a grammar has a set of rules relating semantic structures to linear structures of ordered lexical items, that is, as already suggested, a grammar contains a set of constraints on what semantic bits can be mapped into lexical items. In this case we have the possibility that we do not have a process of Deletion or of Pronominalisation, rather we have a set of constraints on the insertion of lexical items, Deletion being the insertion of zero or the non-applicability of Lexicalisation, and Pronominalisations the insertion of or lexicalisation as a pronominal form.

The discussion of Lexicalisation in the general literature of Generative Semantics has involved questions of Predicate Raising or Nominal Raising (i.e. MEAT FROM PIGS lexicalised as pork Postal, 1970b) and the notion has not been extended to co-reference. In fact, there are several possible relations between these three processes:

- (a) Reflexivisation and Pronominalisation apply before Lexicalisation and mark the element for the insertion of a reflexive or pronominal form by the Lexicalisation rules.
- (b) Reflexivisation and Pronominalisation apply before Lexicalisation and themselves insert lexical items.
- (c) Lexicalisation precedes Reflexivisation and Pronominalisation, which then apply to full lexical nouns

and insert other lexical items.

(d) Finally there is the position proposed above and which we adopt in what follows, namely that there is no rule of Deletion, Pronominalisation or Reflexivisation which is not a rule of Lexicalisation, that is they cannot be distinguished in terms of ordering relations.

From this brief discussion of the form of the grammar, we can now begin to build up the rules and the actual form of the grammar as we further discuss the treatment of direct and indirect causation.

#### 4.4.1. By-clauses

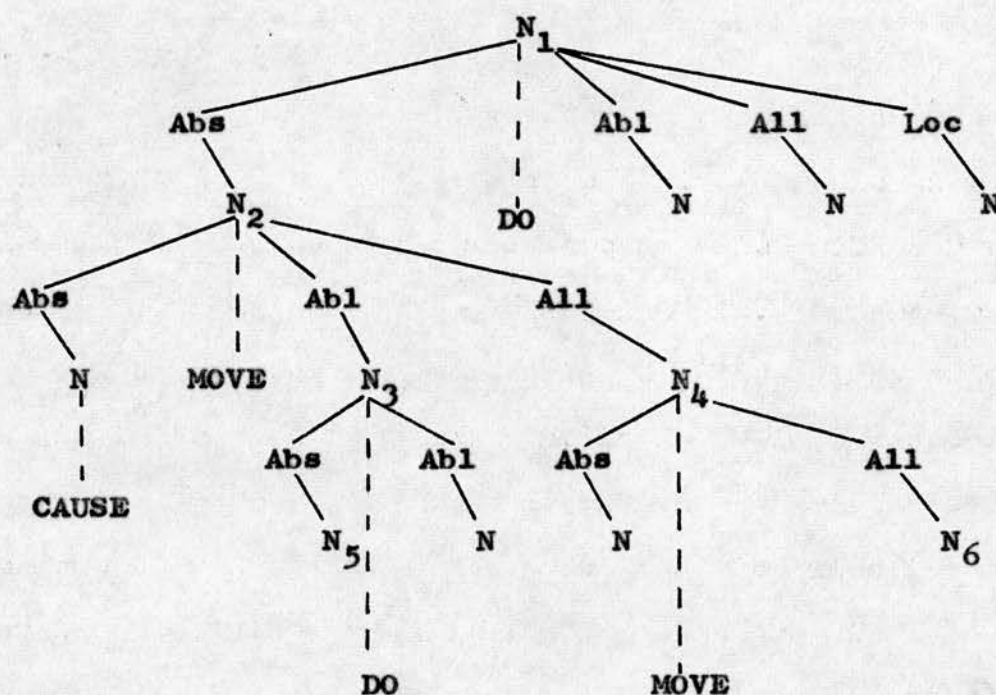
We have suggested that the formation rules create case complexes, which means that each case in a predication may optionally be marked for a second case which will serve to constrain what cases may be raised into it. There are two possible sources for such evidence: the first source, which is internal to the grammar, is found in the secondary cases which are required in a complex to ensure the correct co-reference relations and the second source lies in any general semantic and syntactic evidence there might be for such case complexes. Thus we shall see in the last chapter that most of these case complexes help to define the cases proposed by Fillmore. We are assuming, then, that these case complexes are not "merely" grammatical devices for producing the correct surface structure but have relevance elsewhere in the grammar.

We shall approach this problem via Lee's discussion of by-clauses and the distinction drawn between Method and



Causative clauses (Lee, 1971a and see discussion in Chapter 3). The crucial distinction is that method clauses always contain an active verb while causative clauses may contain an active, eventive or stative verb: alternatively the "underlying subject" of the method clause is always an Agent co-referential with the "subject" of the main clause, while this is only optionally so in causatives. Thus for method clauses we propose the following structure as a basis, omitting the tense and aspect predications:

109.



Predication  $N_4$  corresponds to a predication that the entity governed by Abs moves into a state.  $N_3$  is an activity predication, where Abl governs the Agent and the sentential Abs governs the action performed: notice that we omit the All governing the Patient of the action and the Loc.  $N_2$  is the causal predication where Abs governs the relation CAUSE which passes from one event to another. Predication

$N_1$  is the action predication where Abl introduces the Agent or Source of the action, All the Patient and Loc the Path or instrumental. Thus for the marking of co-reference by the Raising rule, we need the Abl of  $N_3$  to be raised into the Abl of  $N_1$ . In the case of the Abs of  $N_4$  we need to mark this as co-referential with the All of  $N_1$ : in order to be able to do this, we need to mark the All of  $N_1$  as Abs. Similarly we need to allow Loc of  $N_1$  to be marked as Abl so that the Abl of  $N_2$  can be raised into it to form the by-clause. Notice that this parallels the relation proposed by Wojcik (Wojcik, 1976) between the Instrument and the sentential subject of the CAUSE predication. The result of marking Loc as also Abl means that there are two occurrences of Abl in the predication. This raises two questions. Firstly we need some rule to ensure that the Abl of  $N_3$  will raise into the simple Abl of  $N_1$  and not into the complex  $\begin{smallmatrix} \text{Loc} \\ \text{Abl} \end{smallmatrix}$ . Such a rule will state that the simple case must be chosen as "host" before the complex case where there are two available. The second question relates to the status of the one-instance-per-clause constraint on the occurrence of cases (see Fillmore, 1968, 1971a, Anderson, 1976). There are two ways of solving this difficulty: firstly we can distinguish between Cases, such as Abs, Abl, All and Loc and Case Relations which will be simple or complex cases which are dependent on N, so that the constraint is stated in terms of Case Relations. Thus, under such an interpretation Abl and  $\begin{smallmatrix} \text{Loc} \\ \text{Abl} \end{smallmatrix}$  are different Case Relations even though they both contain the same Case. Alternatively we

could state the constraint in terms of "head" cases, i.e. cases which govern a case complex. Thus there cannot be two occurrences of any case as the "head" of two different case complexes: again the structure under discussion does not violate this constraint since Abl is not the "head" of Loc Abl. There does not appear to be any means of selecting between the two forms, so we choose the second since it does not involve introducing any new distinction whereas the first requires the introduction of the dichotomy between Cases and Case Relations.

We must also allow for the Loc of  $N_1$  to be optional. In this case we must block the Abl of  $N_3$  from Raising into Abl of  $N_1$ , so that the Abl of  $N_2$  will raise to produce a sentence with a sentential subject. Thus if Abl of  $N_3$  is JOHN, Abs of  $N_3$  PRODUCE A RABBIT OUT OF A HAT, Abs of  $N_4$  MARY and All of  $N_4$  AMAZED, then the first derivation, where there is a Loc, will produce

110. John amazed Mary by producing a rabbit out of a hat and the second derivation, lacking a Loc, will produce,

111. John's producing a rabbit out of a hat amazed Mary given also a rule of Subjunction whose role is essentially that of Predicate Raising in Generative Semantics. (The actual nature and restrictions on such a rule we shall consider in more detail below.)

Turning to the structure of the causative by-clause, the main characteristic of such clauses is that they are not necessarily active, that is they contain no Agentive Abl. Thus the structure of such predications will be that of  $N_4$



in the above structure. Given a structure in which the Abl of  $N_2$  governs a predication  $N_3$  whose Abs governs JOHN and whose All governs TURN GREY OVER NIGHT, i.e. corresponding to John turned grey over night, we must allow the Abs of  $N_3$  to raise into Abl of  $N_1$  and as in the earlier structure Abl of  $N_2$  will raise into the case complex  $\begin{smallmatrix} \text{Loc} \\ \text{Abl} \end{smallmatrix}$ . This means that the Abl of  $N_1$  must also be marked as Abs so that Abs of  $N_3$  may raise into it. Notice that this Abs will also serve to mark this Abl as non-Agentive. Alternatively, there will be no Loc in  $N_1$  and correlated with this no Abs marking the Abl. In this case Abl of  $N_2$  can raise into the Abl of  $N_1$ . These structures will underly 112 and 113 respectively:

112. John amazed Mary by turning grey over night

113. John's turning grey over night amazed Mary

Thus we can distinguish between Agents and Forces on the one hand which are both governed by a simple Abl, while non-Agents which occur as subjects of such sentences are governed by an Abl complex, i.e. a complex with Abl as the head. We need, then, at least the following structures:

- |  |     |   |            |            |            |
|--|-----|---|------------|------------|------------|
| i.   | Abs | V | Abl        | All<br>Abs | Loc<br>Abl |
| (John did something to Mary by doing X)  |     |   |            |            |            |
| ii.  | Abs | V | Abl<br>Abs | All<br>Abs | Loc<br>Abl |
| (John did something to Mary by becoming X)   |     |   |            |            |            |
| iii.   | Abs | V | Abl        | All<br>Abs |            |
| (John's $\begin{smallmatrix} \text{doing} \\ \text{becoming} \end{smallmatrix}$ X did something to Mary) |     |   |            |            |            |

If we turn for the moment to the formation rules, we

have suggested that possibly there is an initial set that produces a predication with simple cases, i.e. an array of potential "head" cases and a second set which then add cases to these potential heads. From our present discussion, it seems that we can make the following points. Firstly All appears to be marked obligatorily as Abs if the verb is an action verb. Secondly Loc is optional and when it does occur it has an obligatory Abl. Thirdly Abl is optionally marked as Abs. Notice that it is only the optional marking of Abl as Abs which suggests that there are possibly two sets of formation rules. However, we shall see one situation immediately below where Abs is optional on All and in the next chapter we shall see that the marking of Loc is optional. One final point before leaving this brief discussion of formation rules is that such case arrays may be relevant to the operation of formation rules in lower predications: that is, if there is a case complex   
 Loc  
 Abl, then there will be a lower predication containing Abl and further the nature of the lower predication governed by Abl will be determined by whether the Abl co-occurring with the   
 Loc  
 Abl complex is marked with Abs.

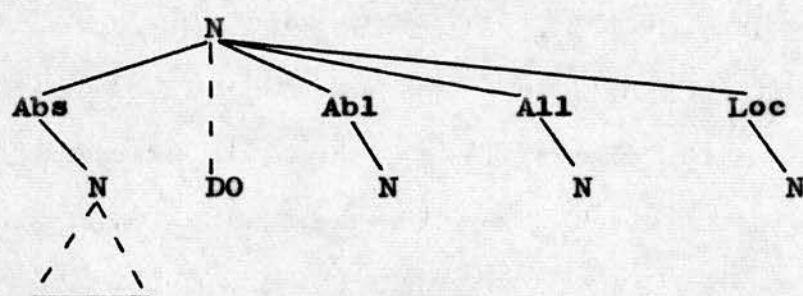
Before leaving this section, we must add a further point which involves the Agent-Force distinction and will provide a further case array. We have observed the ambiguity of the following sentence:

114. John amazed Mary by producing a rabbit out of a hat in that John could be either an Agent acting intentionally or a Force. We suggest that John's status as an Agent

acting intentionally will only be marked by a higher purpose predication which under one reading of 114 has all its elements save Abs and Abl unspecified.

We have already suggested that a purpose predication has an Agentive Abl and an All which governs the Benefactive or purpose expression. However, it also seems likely that such a predication will also contain a Loc which will be responsible for introducing certain adverbials associated with deliberately acting Agents. Thus the structure will be something like:

115.



where Abs governs the action performed, e.g. in the case of 114 "amaze Mary by producing a rabbit out of a hat", Abl the Agent, All the Benefactive, e.g. for Bill, or an in order to expression or simply is unspecified, in which case we have simply a structure which shows the goal-orientation of the action. The point is that if a structure like 109 is embedded in the Abs of 115, there will be no evidence of ~~this~~ in the surface structure if neither All and Loc are unspecified. As we have already noted, such a structure is similar to what surfaces in some languages as a Benefactive expression, i.e. something like "Agent gives Benefactive (Agent does something)".

One further point concerns the Loc which appears in



115. This Loc governs what surfaces as an adverbial expression and is unmarked, i.e. a simple case. In the earlier structures which we proposed Loc was the head of a case complex and introduced Instrumentals. Thus given the similarities and the close relation between Manner adverbials and Instrumentals (see Chapter 2 and the discussion of Nilsen, 1973, 2.1.2.) we can characterise these in terms of the common Loc and attribute the differences to the presence or absence of another case.

In proposing the above structures we are making the assumption that such a higher predication has no influence on the actual structure of the sentence if All and Loc have no semantic specification. Thus we must look at the rules which operate on such structures to collect together those elements which are lexicalised in one item.

#### 4.4.2. Direct and Indirect Causation

The sentences which we have considered so far have been expressions of direct causation; in Fillmore's terms, there has been no intervening Agent. In what follows we shall adopt Miller's suggestion (Miller, 1972a) that "a more subtle analysis in terms of 'direct' and 'indirect' causation is required" and that such an analysis will help to clarify the situation with respect to lexical causatives such as kill and their corresponding "decomposed" forms. Alternatively we might say that lexical causatives and decomposed or overt causatives have the same underlying structure except for features marking the former as direct and the latter as indirect causation and further that the

rule of Predicate-Raising, or to use Anderson's term, Subjunction, is blocked if any of the features of indirect causation are present in the structure. Our present task is to reconsider the arguments against Lexical Decomposition to see what factors block Subjunction and then to see if these factors have any systematic relevance to the notions of direct and indirect causation.

(a) Temporals

Fodor (Fodor, 1970) argues against Lexical Decomposition on the basis of the non-acceptability of the lexical causative corresponding to 116a in that they should both have the same underlying structure under this hypothesis:

116a. John caused Bill to die on Friday by stabbing him on Thursday

b. \*John killed Bill on Friday by stabbing him on Thursday

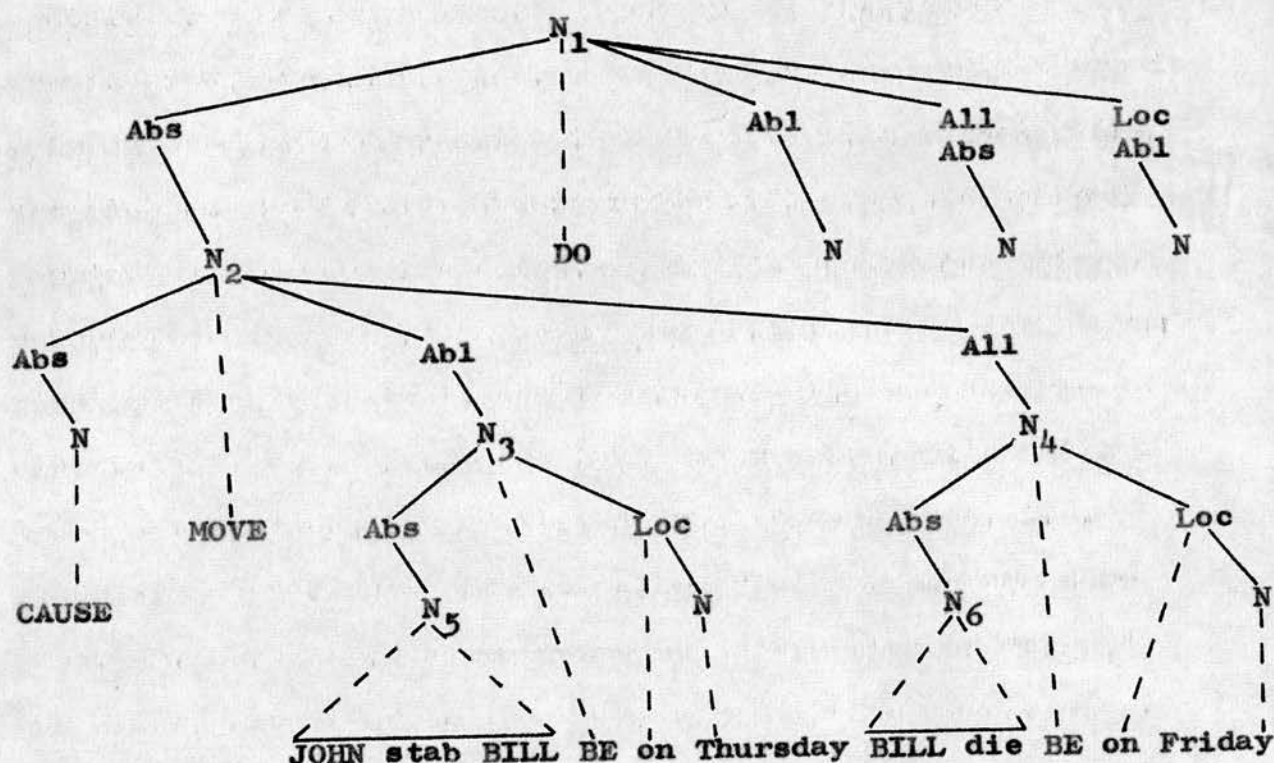
The relevant generalisation which covers this case seems to be that we cannot have two temporals in the structure, such that one modifies the "killing" and the other the by-clause, that is there must be temporal "contiguity" between the two events. Notice that this is a factor restricted to the field of linguistic knowledge. In pragmatic terms the notion of contiguity is not relevant. Legally someone can kill a person provided that the action leads to death within a space of 366 days. Similarly one can kill someone over a period of several days by administering poison. Thus contiguity must be treated as a linguistic notion referring to, in this case, the presence of one temporal modifying the whole sentence.

The treatment of these sentences requires, then, some modification to the grammar in terms of where temporal predications are introduced. We have proposed that there is only one temporal expression in a structure, this being in the highest predication and is responsible for the tense marking on the verbal element. We must now loosen this restriction somewhat, and we can do this in one of two ways: firstly we can loosen it completely and allow tense predications to appear anywhere in the structure, which will lead to the generation of many "garbage" sentences, i.e. underlying structures with no well-formed surface counterpart, or, secondly, we can introduce the notion of "event" and allow only these to be governed by a tense predication. In this case we need restrictions on the occurrence of such tensed "events" and so far all that we know is that a sentence must be such an "event" and that in the case under discussion the Abl and All of the CAUSE predication must also be governors of such structures.

Thus the underlying structure of 116a-b can be represented as the following, omitting the highest tense and aspect predications:



117.



The Raising rules will mark JOHN of  $N_5$  as coreferential with the Abl of  $N_1$ , and BILL of  $N_5$  and  $N_6$  as coreferential with All. Abs. Abl of  $N_2$  will also raise into Loc of  $N_1$ . If we consider the development of this structure after the application of these Raisings, Subjunction must apply on the  $N_4$  cycle so that  $N_6$  is subjoined to  $N_4$  to form the verb die and at least the tense specification of the Loc is subjoined so that if this were a simple sentence we would have a past tense marker on the verb. The same operation applies to  $N_3$ , but this will never surface, since its being coreferential with the N of the higher  $\begin{smallmatrix} \text{Loc} \\ \text{Abl} \end{smallmatrix}$  case complex blocks its lexicalisation.

At this point we must consider the status of the tense predication governing the whole structure. Presumably

Raising will also mark this as coreferential with one of the lower tense Locs, either the Loc of  $N_3$  or of  $N_4$ . In the sentence under discussion, there is no evidence that the highest tense Loc is coreferential with the Loc of  $N_3$ , so presumably the Loc of  $N_4$  has raised into the higher Loc. However, this seems to contravene a general constraint on the application of Raising and on the cycle. Thus in terms of the Abl and All of  $N_2$ , on which N does the cycle apply first? The constraint which we need makes reference to the case hierarchy and states that the N governed by the case which is higher in the hierarchy is cycled on first. Thus the constraint requires that the Loc of  $N_3$  be co-referential with the highest tense Loc so that the sentence under discussion, namely 116b, is deviant because the constraint has been ignored. However we also have an unacceptable sentence if the constraint is upheld, i.e.

118. \*John killed Bill on Friday on Thursday by  
stabbing him

We can attribute the unacceptability of this to the lack of position for the occurrence of the second tense Loc. Further to handle this situation we need a general constraint on Subjunction that an element cannot subjoin if it governs a tense predication which is not co-referential with some higher tense element. Thus 116b is unacceptable because the constraint on the cycle has been broken and 118 is unacceptable because it involves Subjunction of  $N_4$  which itself governs an element, namely Loc, which is not coreferential with any higher element. Thus there is no way in which a lexical causative can derive from a structure

with two differently tensed "events", the only structure possibly in the surface structure is an overt or decomposed causative.

We have added to the model in three ways: firstly, we have introduced the notion of an "event", i.e. a predication governed by a tense predication and have specified that the Abl and All of a CAUSE predication must govern such "events". We shall see the further relevance of this below (see 4.4.2.c). Secondly, we have placed a constraint on the application of the cycle, namely that Raising applies cyclically on that predication which is governed by the case ranked highest on the case hierarchy before cycling on any other predication governed by that predication. That is, given a predication  $N_0$ , and predications  $N_1$ ,  $N_2$  and  $N_3$  dependent on  $N_0$ , Raising applies first to that predication governed by the highest ranked case. This ensures that a tense Loc in an Abl predication will be marked as coreferential with the tense Loc of the sentence. Thirdly we added a constraint on the rule of Subjunction to the effect that a predicate cannot be subjoined if it governs an element which is not coreferential with some higher element.

Taken together, these factors have some consequences for the rules responsible for semantic specification. Let us assume that semantic specification is unconstrained, in which case we have the following possibilities. Firstly, there is only one semantic specification of tense, i.e. only one Loc in a structure like 117 is semantically specified: in this case there are no difficulties, any of



the three Locs will be specified and the Raising rule will operate to mark all of them as coreferential. Secondly, we can have two semantic specifications for tense, but in this case the place of occurrence of such specifications is crucial. If the highest Loc is specified and the Loc dependent on  $N_4$  also, then there are no problems: the Loc of  $N_3$  will raise into the highest Loc and the constraint on Subjunction will block the formation of a lexical causative. However, if the highest Loc and the Loc of  $N_3$  are specified, then Loc of  $N_4$  will be marked as coreferential with the highest Loc and the constraint on Subjunction would not apply. We would need, then, some other constraint to the effect that the Loc of  $N_3$  must be coreferential with the Loc of the highest predication. But such a statement is already embodied in the condition on the cycle, so that the easiest way of preventing such a situation is to ensure that semantic specification takes place at the "lowest" point in the tree, i.e. in that predication on which the cycle operates first. Thus for semantic specification we need a notion of "lowest N in a chain of coreferential Ns" which will be dependent on the case hierarchy. Thus Loc of  $N_3$  will always be semantically specified and that of  $N_4$  will optionally receive such a specification.

To what extent, then, do the above structure and the proposed constraints help to capture the notions of direct and indirect causation? Basically we have suggested that direct and indirect causation are reflected in the contiguity or non-contiguity of the causing event and the resulting

event. One form of this contiguity is temporal. Thus for temporal contiguity, three events must be identically tensed; first, the event in which John does something to Bill, i.e.  $N_1$  which is the action predication, secondly the event in which John stabs Bill,  $N_3$  which is the causing event and finally the event in which Bill goes into some state, i.e.  $N_4$  which is the resulting event. Thus given this identity of time reference, we can say that we have essentially a simple real-world event, the sub-components are treated as forming one event. Contrasted with this, we have indirect causation in which the result predication is separately tensed, that is we do not have a simple real-world event, but two real-world events which occur at separate times. Alternatively we could capture the difference in terms of identity of reference versus separately referring events, where referring is here to be related to tense marking.

Notice that such a distinction between simultaneously referring and separately referring has relevance to the constraint on Predicate-Raising proposed by Seuren (Seuren, 1974a, 1974b) which makes essential reference to "non-referential expressions", such that only entities of this type can be raised. The difference is that we locate the notion of "non-referential" within the notion of "an element governing another element which is not coreferential with some higher element", i.e. an "event" is a referential expression and cannot Subjoin or be raised by Predicate-Raising if its time reference is distinct from the time

reference of other "events". For this notion we now introduce the term Boss-case or Boss-noun; thus a Boss-case is a case governing a Boss-noun which itself constitutes a separately referring element, and the presence of such a Boss-case dependent on some element will block the Subjunction of that element. In what follows we shall try to show that this notion has relevance elsewhere in the grammar.

(b) By-clauses

Fodor (Fodor, op. cit.) also argues that Lexical Decomposition is refuted by the following examples:

119a. John caused Bill to die by swallowing his tongue

b. John killed Bill by swallowing his tongue

Thus 119a is ambiguous between John and Bill as the swallower, accounted for by the fact that there are two underlying subjects. If lexical causatives have the same structure as overt causatives, then 119b should be ambiguous. However, 119b is not ambiguous since Bill cannot be coreferential with the deleted subject of the by-clause, thus the argument is that Bill is never <sup>a</sup> subject in the underlying structure of 119b and Lexical Decomposition is refuted. However, Fodor's analysis is too simplistic, since it does not take into account whether the by-clause is a method or causative clause. This point is crucial since it affects the whole structure of the sentence and thus the possibilities of co-reference. Fodor fails to make this apparent by assigning the same structure to both:

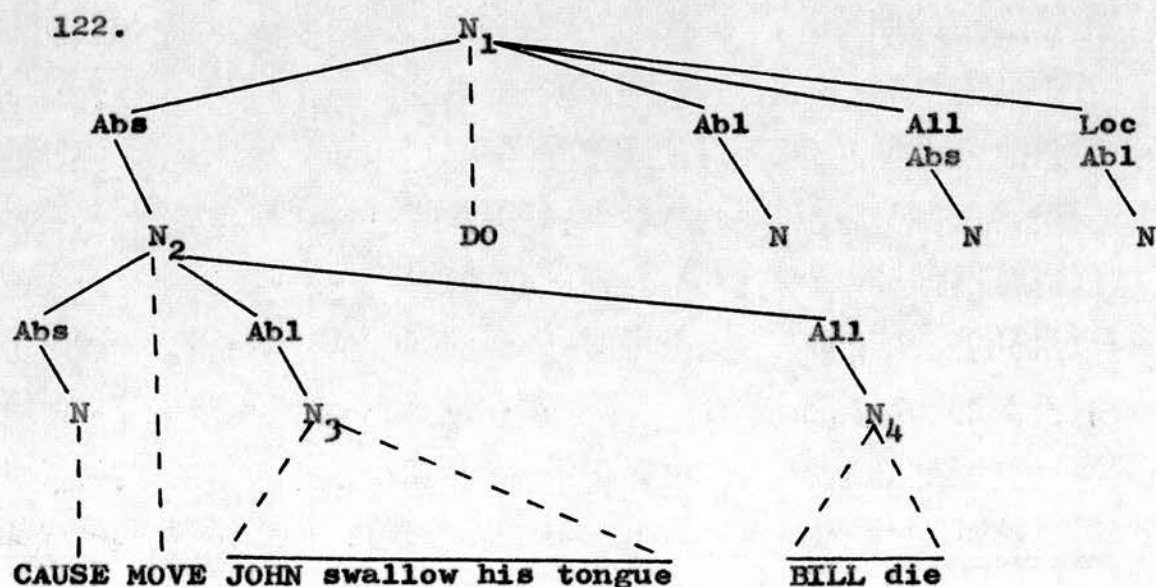
120. (John caused(Bill to die))(by(<sup>John</sup>Bill swallows Bill's tongue))



(Fodor, op. cit.: 435-6). That there is a difference in structure paralleling the ambiguity of 119a can easily be shown by moving the by-clause:

121a. John, by swallowing his tongue, caused Bill to die

b. By swallowing his tongue, John caused Bill to die  
where we only have the reading with a method clause, i.e. in which John swallowed the tongue, and the causative reading, where Bill's tongue-swallowing is the actual cause of death, is excluded. Thus we need, in fact, two different structures, one in which the by-clause is dependent on the CAUSE predication, the other in which it is dependent on die. In this case, the subject of the by-clause will be deleted by the closest commanding subject, John in the first case and Bill in the second, and we can associate direct causation and hence Subjunction with the former and indirect causation and the decomposed form with the latter. The relevant structure will be the following for direct causation, omitting tense and aspect predications and the full structure of the lowest predications:



If we trace through the derivation of this sentence, we find that it progresses as already proposed for such structures. Thus the rules will cycle on  $N_3$  first, this being the "lowest" predication and JOHN will raise into the Abl of  $N_1$ . On the  $N_4$  cycle, BILL will be raised into the All of  $N_1$ , and on the  $N_2$  cycle, Abl will raise into  $\begin{smallmatrix} \text{Loc} \\ \text{Abl} \end{smallmatrix}$ . There are aspects of this structure which cannot be dealt with fully yet. Thus, for example, what are the conditions on Lexicalisation which block the lexicalisation of JOHN and Bill in  $N_3$  and  $N_4$  respectively? A first approach will involve a rule of Subject-Formation and block lexicalisation of subjects which are not Boss-cases, but we return to such questions below. However, it does seem that Subjunction in this structure operates in a fairly straightforward manner. One feature of this rule opposing it to Predicate-Raising is that on any one cycle, two elements may be subjoined to the governor. Thus on the  $N_2$  cycle both CAUSE governed by Abs and DIE governed by All and neither having a Boss-Case dependent on them will subjoin to  $N_2$ . One possibility is that Subjunction may also be dependent on the case specification of the governing element, that is the Abs governing  $N_2$  may also be marked All. However, there is no means of deciding this issue at the moment.

Another question raised by this derivation concerns the potential cyclic operation of Lexicalisation. Thus it is feasible that after cycling on  $N_2$  we have the subjunction tree involving two semantic elements CAUSE MOVE and the lexical item die, which results from the prior lexicalisation

of DIE on an earlier cycle. This subjunction tree will, then, lexicalise as kill. Subjunction on the  $N_1$  cycle subjoins Abs, governing kill and DO receives no lexicalisation. Just as this DO is not lexicalised, so, if there is a higher purpose predication, the DO of that predication will also not lexicalise, so that we have a means of showing that kill is a potentially ambiguous form and further this is not so much of an accident as it is in the case of Dowty's proposals and Lee's (Dowty, 1972a, Lee, 1971) where two different structures lexicalise as the same lexical item. However, such a proposal may not be completely acceptable, since cyclic lexicalisation means that DIE has lexicalised as die, so that we have a situation in which the predicate DO does not require any overt lexical form while the predicate CAUSE does require that the lexical form die is replaced by kill. We shall return to this question below.

Thus structure 122 will underlie 119b

119b. John killed Bill by swallowing his tongue which involves direct causation. This is shown in the structure by two factors, firstly the presence of  $\begin{smallmatrix} All \\ Abs \end{smallmatrix}$  in  $N_1$ , that is the action passes directly from John to Bill, and secondly by the absence of separate tense Locs in  $N_3$  and  $N_4$  or of an intervening Agent. The lexically decomposed form corresponding to 119b will have a different underlying structure, namely one in which the predication  $N_1$  has no  $\begin{smallmatrix} All \\ Abs \end{smallmatrix}$ . Thus the Abs of  $N_4$  governing BILL will not be able to raise leaving DIE with a Boss-Case dependent on it. This will

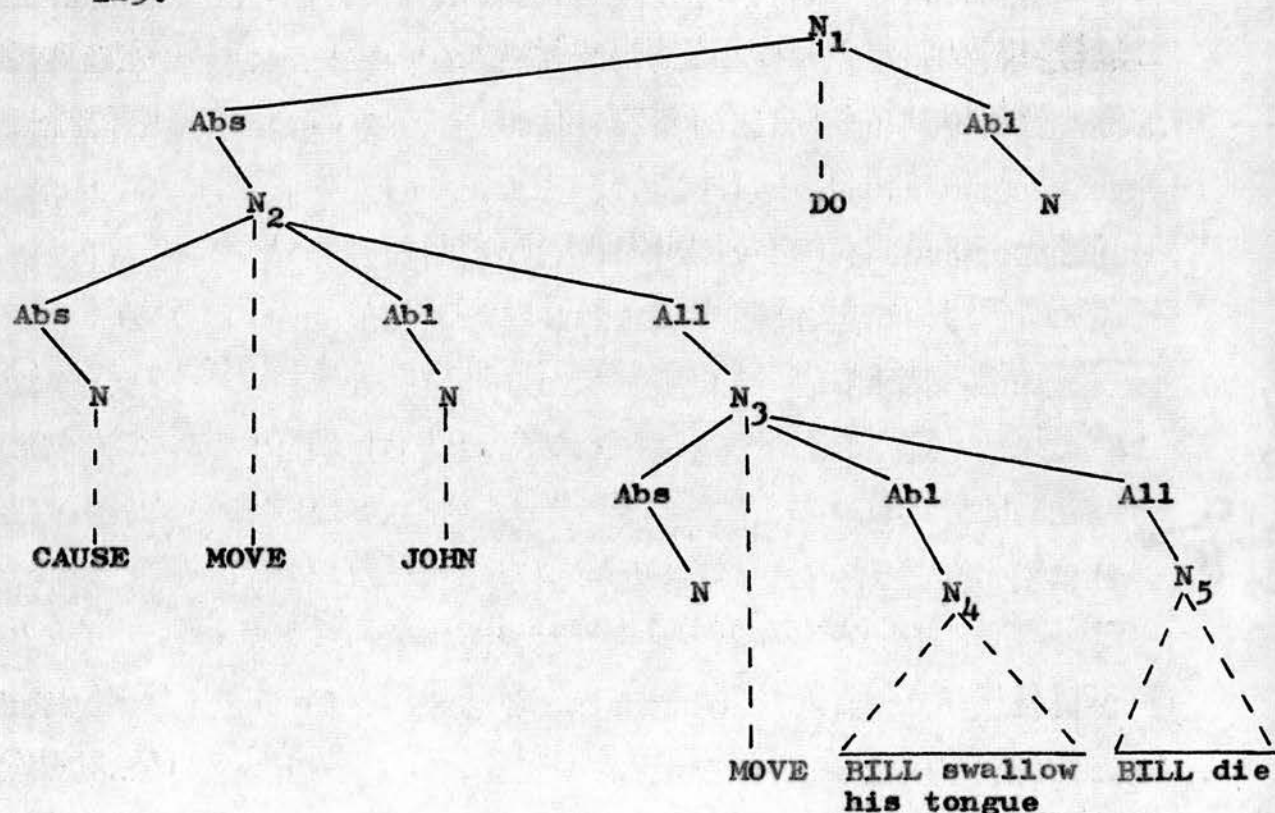


suffice to block lexicalisation, but we return to this below when we have a better idea of how Subjunction is constrained since it does appear that under certain circumstances Subjunction could apply to such a structure to produce 119b, that is, this sentence is potentially ambiguous between the direct causation reading, involving the presence of  $\begin{smallmatrix} \text{All} \\ \text{Abs} \end{smallmatrix}$ , and the indirect causation reading, where  $\begin{smallmatrix} \text{All} \\ \text{Abs} \end{smallmatrix}$  is absent.

Turning now to the second reading of 119a

119a. John caused Bill to die by swallowing his tongue which involves the by-clause modifying die, we have a sentence involving indirect causation. Thus the structure would be the following, lacking an  $\begin{smallmatrix} \text{All} \\ \text{Abs} \end{smallmatrix}$  of direct causation:

123.



The structure  $N_3$  underlies what surfaces as John died by

swallowing his tongue if this were an independent predication directly governed by aspect and tense predications, and similarly with slightly different semantic specifications underlies the following:

124. John died of hunger

125. John starved to death

where the prepositions of and to lexicalise Abl and All respectively. Notice that the Abs of  $N_3$  cannot govern CAUSE, as does the corresponding Abs of  $N_2$  since this would require the presence of kill in surface structure.

The salient features of the derivation are: on the  $N_4$  cycle BILL is marked as coreferential with the Abs of  $N_3$  and similarly on the  $N_5$ , although we have BILL present in the structure, in fact this is an empty N, and as such can raise into a semantically specified N, that is it can be marked as coreferential with the Abs of  $N_3$ . On the  $N_2$  cycle Abl will raise into Abl of  $N_1$ . The crucial thing is that now we have  $N_3$  governing a Boss-Case, in that there is no higher case for Abl to raise into. Thus Subjunction can only subjoin Abs of  $N_2$  to  $N_2$ , since this Boss-case blocks the subjunction of  $N_3$ . Hence we have a lexically decomposed structure as the only well-formed structure possible.

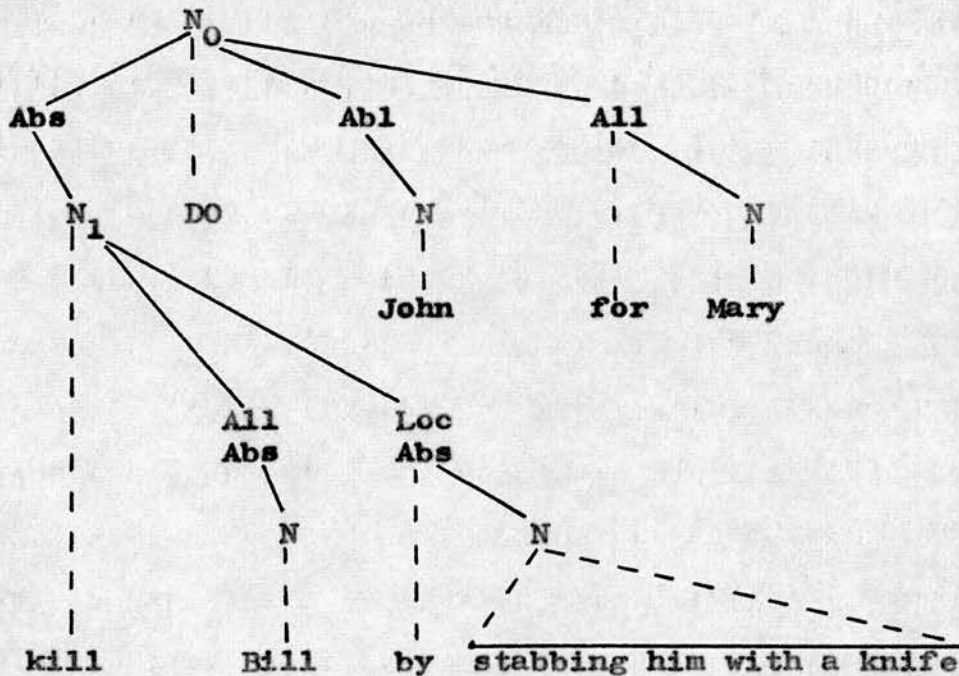
However, we still have problems. Firstly why does the Abl of  $N_4$  not raise into Abl of  $N_1$ ? We leave this for the moment and return to it below (see 4.4.2.c). Secondly, we now have  $N_2$  governing the lexical item cause, but this must presumably subjoin to  $N_1$  on the  $N_1$  cycle yet it governs a Boss-Case which should block Subjunction. This is not

the only case in which such a situation arises: we suggested that in the derivation of 119b from structure corresponding to 122 but lacking the All of  $N_1$   $N_4$  may optionally subjoin yet it also governs a Boss-Case. Similarly Subjunction must apply when there is a higher Purpose Predication when the subjoined element governs a Boss-Case. Thus the structure underlying the sentence

126. John killed Bill for Mary by stabbing him with a knife

would be the following before cycling on the highest predication:

127.



Again we have an element  $N_1$ , governing the Boss-Cases  $All$   $Abs$  and  $Loc$   $Abs$  but it must subjoin to the higher predicate  $N_0$ . However, there is a factor in common to this example and that of 123, namely the Host element to which the lower element subjoins, both subjoin to DO. Thus it is possible that this is one of the determining factors. However, this



would clearly involve a weakening of the constraint on Subjunction, and should, therefore, be avoided if possible.

If, however, we look at the structures which result from subjoining  $N_1$  to  $N_0$  in 127 and from subjoining  $N_2$  to  $N_1$  in 123, there is a further factor in common. Thus after Subjunction applies to 127, we find the following cases dependent on  $N_0$ , Abl, which will become the subject, All, All and Loc Abs and Abl, that is, Subjunction does not lead to repetition of the same case, whether a simple or complex case. Compare, then other cases of Subjunction. In 118, on the  $N_2$  cycle,  $N_4$  cannot subjoin to  $N_2$  since  $N_4$  governs a Boss-Case and subsequent operations of Subjunction would result in the presence of two non-coreferential Locs governed by the tense predication. Thus the Boss-Case constraint helps to ensure that there are not two occurrences of the same case dependent on the same element. The same situation holds for 123. Subjunction is blocked on the  $N_2$  cycle since  $N_3$  governs the Boss-Case Abl. Again if it did apply, we would have a resulting structure with two occurrences of Abl, one governing John, the other governing by swallowing his tongue. However, in the same structure Subjunction applied to Abs of  $N_1$  does not lead to this doubling of cases.

It is feasible to remove the Boss-Case constraint from the grammar, but, in fact, this would lead to complications in the form of something like a global rule. Thus we could have a simple constraint that Subjunction must not create an element with two occurrences of the same case dependent

on it. This would work simply in the case of 127 and the structures where Subjunction is not blocked. However, it would need the grammar to be able to refer indefinitely up the tree in the case of 123, since it is only on the last cycle that Subjunction does lead to such doubling of the case Loc. Alternatively, instead of having a global condition on Subjunction, we could have a simple condition on the output, to the effect that any sentence which has two occurrences of the same case is deviant. However, we reject this possibility since it seems more reasonable to block a possible deviant structure early in its life and allow an acceptable derivation, rather than allow the derivation to follow through and then reject the output.

Finally consider the situation with Subjunction with respect to 119b with the indirect reading:

119b. John killed Bill by swallowing his tongue  
 The relevant structure is 122 lacking the <sup>All</sup><sub>Abs</sub> of  $N_1$ . Here  $N_4$  subjoins to  $N_1$  and again there is no doubling of cases. However, the Host here is the predicate MOVE so that the nature of the Host is irrelevant to the constraint on Subjunction. Thus we can state the Boss-Case constraint simply in terms of the subjunction of an element provided it does not govern a Boss-Case such that there is a higher occurrence of that case. We return below to a further discussion of Subjunction and a tighter statement of the constraint (see 4.4.2.e).

To what extent, then, does this analysis help us to capture the notion of direct and indirect causation? The



Boss-Case constraint applying to 123 reduces, in fact, to the claim made earlier in the discussion of Lexical Decomposition, that Subjunction or Predicate-Raising is blocked if the subject i.e. Agent, of the action predication is not coreferential with the Agent of the by-clause. Thus the action described by 123 is indirect in that the main Agent does not operate directly on Bill: Bill himself acts as intervening Agent in that he swallows his tongue, and this act causes his death. In the case of 122, the two Agents are coreferential, John swallows the tongue and John kills Bill, causes his death, so that Subjunction is possible and we have direct causation. Notice also that the presence or absence of <sup>All</sup><sub>Abs</sub> also correlates with direct and indirect causation respectively.

However, in a sense, we may be mis-using the terms "direct" and "indirect" causation. The cases discussed so far in general clearly fall into the category of direct causation and the fact is clearly shown in the actual surface structure in terms of a lexical causative; we can call these "syntactically direct causation". However, we noticed that 119b can also be viewed as expressing indirect causation yet is a lexical causative. Moreover, we noticed examples in the preceding chapter where we have "syntactically direct causation", i.e. a lexical causative, but which we called indirect causation. Thus the following are "semantically indirect" causative sentences:

128. John killed the astronauts by carelessly forgetting to seal the hatch



129. You killed my son by sending out that patrol  
 (To be said by a hysterical Maureen O'Hara to her estranged husband, Colonel John Wayne, who has just sent out their only son, a newly arrived Lieutenant, on a mission where he is to prove that he is a man and worthy of his father.)  
 The difference lies in the fact that in the underlying (semantic) structure of such sentences the object of the main verb is not governed by  $\begin{smallmatrix} All \\ Abs \end{smallmatrix}$  and further the Abl of the action predicate, i.e.  $N_1$  is not coreferential with the actual causing event, there is some intervening Agent or cause.

In fact, such a proposal is a means of capturing Fillmore's notion of "immediate cause" (Fillmore, 1971), in that an immediate cause will contain an expression of the patient coreferential with the N governed by the  $\begin{smallmatrix} All \\ Abs \end{smallmatrix}$  of the action predication. What, then, is the force of this higher action predicate lacking the  $\begin{smallmatrix} All \\ Abs \end{smallmatrix}$ ? We would like to suggest that one further property to be associated with DO predications in general is the property of attributing responsibility to the Agent. Thus in 129 Maureen O'Hara would be blaming John Wayne since he is responsible, and similarly in 128 John is held responsible for the astronauts' deaths. Thus we can distinguish between semantically direct and indirect causation in terms of the presence or absence of the  $\begin{smallmatrix} All \\ Abs \end{smallmatrix}$  and the non-coreference of the Abl of the action predication with the immediate cause. Syntactically direct and indirect causation will involve the distinction between lexical and overt or decomposed

causatives, such that all syntactically indirect causatives, i.e. decomposed, will derive from semantically indirect while syntactically direct will derive from semantically indirect or direct causatives.

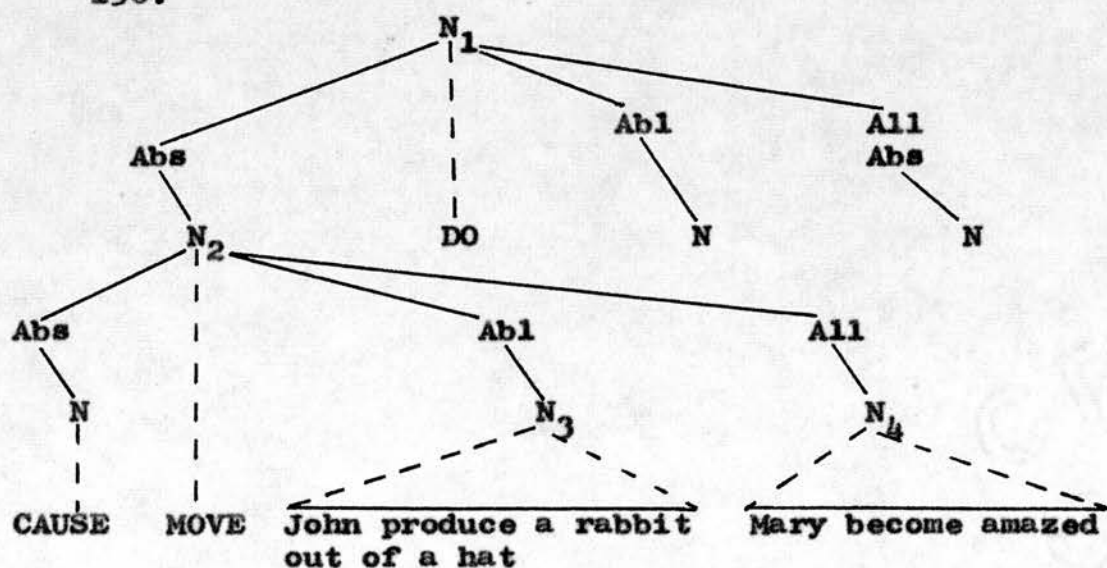
(c) Another Nominal Interlude

Before extending our analysis to other counter-arguments to Lexical Decomposition, we wish to return to the noun-verb distinction. We suggested above (see 4.3.) that we should not make this distinction at the deepest level, verbs being distinguished at surface structure in terms of taking tense markings, and adopted this as a working hypothesis to see whether a grammar couched in such terms would be acceptable. We can now reconsider our suggestions in the light of our proposals for the grammar to date. In particular, it seems at first glance that the grammar will be simpler if we do make the distinction.

If we refer back to the structure proposed for

111. John's producing a rabbit out of a hat amazed Mary  
which we give here as 130:

130.



In this case we need to block the Abl of  $N_3$  governing JOHN from raising into the Abl of  $N_1$ , since this would leave no position open for the Abl of  $N_2$ . Rather it is this latter,  $N_2$  which must raise into the Abl of  $N_1$ . Notice further that if it does not raise, then subjunction of  $N_2$  to  $N_1$  is blocked since  $N_2$  will not govern a Boss-Case. The simplest means of introducing a means of blocking this derivation would be to introduce the noun-verb distinction and use this as a further constraint on Raising. Thus the Abl of  $N_1$  will govern V and the Abl of  $N_2$  will also govern V so that the lower Abl can raise into the higher, both of them governing the same term V. The Abl of  $N_3$  will govern N, however, and the raising of this into the higher Abl will be blocked by the non-identity of the two terms they govern, N in the lower case and V in the higher.

Blocking Raising in terms of imposing a constraint referring to the terms governed may also be relevant to the derivation of 122. We shall argue in the next chapter that the object of verbs like swallow i.e. body-movement verbs, is governed by a case containing Loc, so that in the derivation of 122 we need to block the raising of his tongue into the  $\begin{smallmatrix} \text{Loc} \\ \text{Abl} \end{smallmatrix}$  of  $N_1$  which must be the host for the Abl of  $N_2$ . This again can be done in terms of generating a V dependent on  $\begin{smallmatrix} \text{Loc} \\ \text{Abl} \end{smallmatrix}$ .

However, although it may appear that we have reintroduced the noun-verb distinction, there is nothing here which directly contradicts our earlier statement that verbs are tensed nouns. In each case, what we are doing



is ensuring that a tensed "event" is raised and not a noun, that is in each case what in fact raises is the highest tense predication and the predications directly or indirectly dependent on it. In this case we are raising a verb, but a verb which is also a tensed noun, or rather a noun which may receive tense specification at some later point. Thus we introduce the convention that tense predications are governed by V. Thus while nouns no longer reign supreme in the underlying structure, the "verbal" element is introduced in a manner consistent with our suggested correlation between verbs and tense.

One final point concerns the fact that the distinction also allows us to constrain the formation rules. One immediate consequence is that if we introduce a V into a predication, then we must do one of two things, either that V must be further expanded by the formation rules, or we must introduce a lower V in the structure which can raise into it.

(d) Shibatani

We suggested in our discussion of Shibatani's supposed counter-examples to Lexical Decomposition that they could all be rejected in that he fails to take into account the possibility of a constraint on Predicate-Raising in terms of identity of the two subjects involved. Notice that if there were such a constraint on Subjunction in our grammar, it would mean that Subject-Formation applies cyclically before Subjunction. However, so far there is no reason to believe that Subject-Formation precedes Subjunction and we

already have one means of blocking Subjunction, namely the Boss-Case constraint. The question is whether this is also relevant to the arguments which Shibatani brings to bear based on Japanese data.

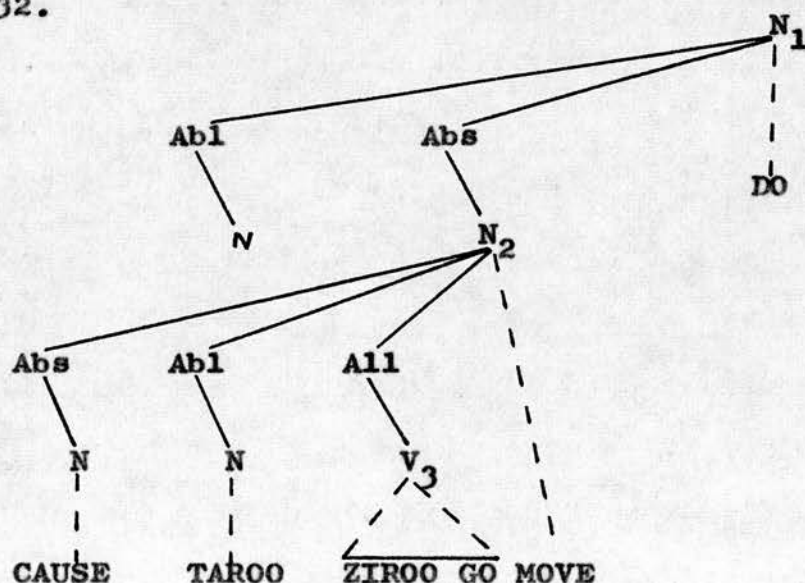
The first argument which Shibatani has against ~~lexical~~ Decomposition (Shibatani, 1973a) relates to the number of restrictions which must be placed on Predicate Raising, but we have suggested that all these restrictions reduce to one constraint to the effect that if the governed predication contains an Agent, then it must be coreferential with the higher Agent or Abl or Subjunction will be blocked. Thus the underlying structure of

131. Taroo ga Ziroom o ik-ase-ta

'Taroo caused Ziroom to go'

would be the following, ignoring the structure of the lowest predication for the moment in its full detail:

132.



After Raising Abl of  $N_2$  into Abl of  $N_1$ , Subjunction cannot apply on the  $N_2$  cycle to subjoin  $V_3$ , governing GO, to  $N_2$

since  $V_3$  governs a Boss-Case. The absence of a further All Abs in  $N_1$  allows for the indirect causation. The alternation between the o-marker and the ni-marker of the object would presumably be related to the case which dominates ZEROO in  $V_3$  either Abs or Abl respectively. This difference in case would also tie in with the difference in meaning which Shibatani notes, namely that with the o-marker the causation is more forcible or direct than with the ni-marker. Absence of Subjunction allows the predicates GO and CAUSE to surface as lexical items. Thus Shibatani's data from Japanese in this respect do not form a counter-example to Lexical Decomposition, provided we have an obligatory rule of Subjunction constrained by the Boss-Case constraint.

Shibatani brings three other arguments against Lexical Decomposition, all of which involve the fact that there is some ambiguity with a certain structure with an overt causative while there is no ambiguity with the related lexical causative. Similarly all reduce to the fact that with overt causatives there are two distinct Agents, whereas with lexical causatives there is only one, a point which we would predict given the Boss-Case constraint. The three arguments relate to reflexives, "do so" insertion and adverbs. The last one can easily be handled in terms of the number of Agents in the underlying structure with which the adverb can be associated, that is ambiguity arises if there are two Agents with which the adverb can be associated, but this means that the Boss-Case constraint will block Subjunction, while there is no ambiguity with only one Agent



and the Boss-Case will not apply. The first two, however, are more informative about the nature and place of Lexicalisation in that both involve the insertion of some "pronominal" form. The form of the argument is the same in both cases, as is the counter-argument in terms of a Localist view of case grammar with Lexical Decomposition. This being so, we shall consider the argument from reflexives only. The relevant sentences are those like the following:

133a. Taroo wa Ziroo ni zibun no huku o ki-sase-ta

'Taroo<sub>i</sub> had Ziroo<sub>j</sub> put on self's<sub>i</sub>/self's<sub>j</sub> clothes'

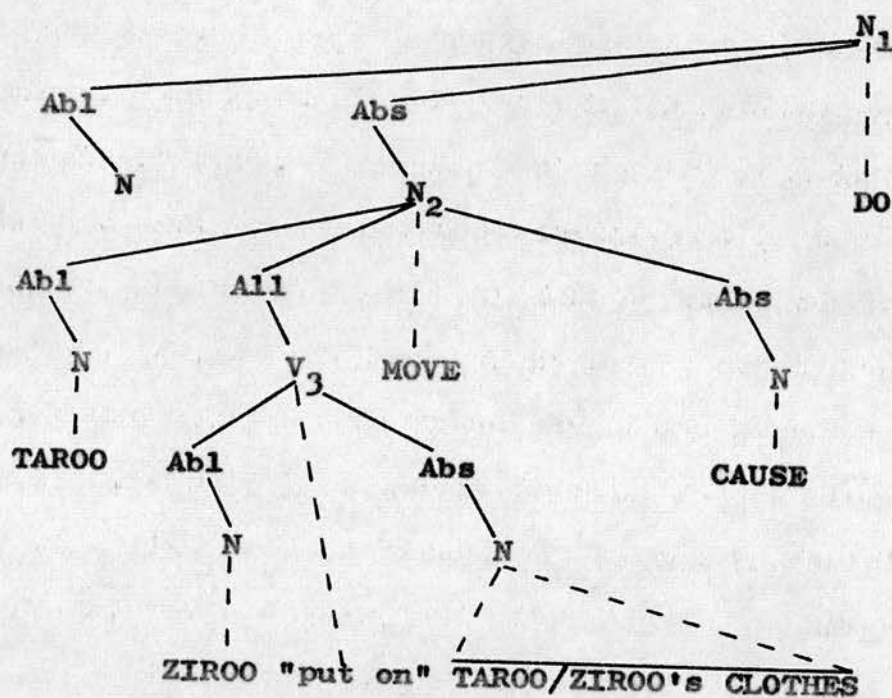
b. Taroo wa Ziroo ni zibun no huku o kise-ta

'Taroo<sub>i</sub> put self's<sub>i</sub>/\*self's<sub>j</sub> clothes on Ziroo<sub>j</sub>'

Thus with the overt causative the reflexive pronoun zibun can be coreferential with either of the two nouns. This is perfectly natural since there are two predications each with a subject and in the standard treatment of reflexivisation in Japanese it is the subject which controls reflexivisation of a coreferential element in an embedded sentence, (Shibatani, 1973a, McCawley, 1975). With a lexical causative, as we would expect, there is only one "subject" available to control reflexivisation, the lower one having been raised into the <sup>All</sup><sub>Abs</sub> of the action predication, thus allowing only one reading for the sentence.

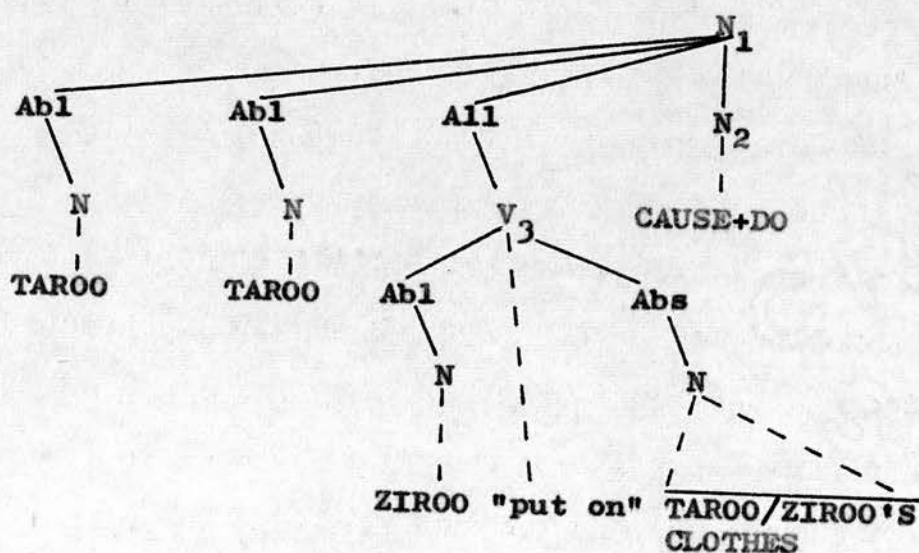
We must now look at these sentences in a little more detail to ascertain the relation between Raising, Subjunction and Lexicalisation. Thus the structure of 133a would be the following, omitting problems associated with possessives:

134.



We omit also the tense and aspect predications from  $V_3$ .  $Abl$  of  $N_2$  is marked as coreferential with  $Abl$  of  $N_1$ . On the  $N_2$  cycle Subjunction subjoins  $Abs$  to  $N_2$ , while Subjunction of  $All$  is blocked since it governs a Boss-Case  $Abl$ . On the  $V_1$  cycle  $Abs$  is again subjoined to produce the following structure:

135.



We assume that Subjunction involves the removal of the

governing case and the subsequent Adjunction of the cases governed by the subjoined element to the host, but clearly this is an area which needs further study, although in this case nothing crucial appears to hang on the issue. Lexicalisation can now apply to this structure, this comprising two components, firstly Strict Lexicalisation, or the insertion of lexical material and secondly Linearisation, although we do not commit ourselves to there being any strict ordering relations between them at this point, since we have not enough data to be able to see if they are autonomous or if they interact in some way. Autonomous, there would be no consequences at all for their relative ordering, but if they interact, then their order of application will be crucial. Certainly in terms of pronouns in English Linearisation must precede Strict Lexicalisation, linear order being relevant to command relations (see Stockwell et al. 1973 for references).

Thus we need to reinterpret the standard rule of reflexivisation in Japanese and this can be done essentially in terms of the notion of highest ranked case on the case hierarchy. Thus given a situation in which some case X governs a noun  $N_1$  such that  $N_1$  is coreferential with some higher noun  $N_j$  itself governed by case Y, and case Y is the highest ranked case in that predication, then  $N_1$  is lexicalised as zibun. Thus in  $V_3$  we have  $N_1$  which governs TAROO or ZIROO in the possessive structure, and both of these occur in higher predications governed by the case which, in their respective predications, is ranked highest



on the hierarchy. Thus both TAROO and ZIROO are Boss-Nouns which can control reflexivisation of the lower occurrence, which will allow the potential ambiguity of sentences like 133a.

The other point of interest concerns the deletion of the second occurrence of TAROO. We have attached this to  $N_1$  and assume a general rule which will block the lexicalisation of one of two cases if those cases are identical, governed by the same N and govern coreferential elements. There are two other alternatives: firstly that the "subject" or highest ranked case is automatically blocked as a result of Subjunction. This, however, does not really fit in with anything else in the grammar, and will entail Lexicalisation applying at two points. Secondly, we could abandon the suggestion that subjoined elements have their dependents attached directly to the host, in which case the two occurrences of TAROO will be in different predications and we will need a rule which deletes the lower coreferential case if it is (i) the highest ranked case and (ii) it is coreferential with a case which itself is highest ranked. For Japanese, this matter must be settled when more is known. We return briefly to this below for English.

Notice that, in the lexicalisation of reflexives and in the non-lexicalisation of certain elements, we have referred to the notion of highest ranked case in a predication. But the case identified in this way is generally called the subject, or rather corresponds to the subject. Thus if we are to preserve the notion of subject to identify this case

and relate subject also to Linearisation, then we must allow Strict Linearisation to be preceded by Linearisation, so that "subject" can be referred to. However, it is not clear that we need to be able to refer to "subject" at all, rather than to the highest ranked case. Again we return to this below (Chapter 5).

One further point concerns semantic specification and the notion of Boss-Case. So far we have given trees with semantic elements in them and assumed that Raising copies the semantic specification. Thus in 135, for example, there are two occurrences of TAROO, and to identify the lower occurrence of any semantic specification as a non-Boss-Case we need to refer higher in the tree. The situation will be simplified if we modify semantic specification so that it inserts two things under each N to be specified, firstly a semantic specification and a variable associated with it, e.g. (TAROO,x). Raising will now be a copying rule which copies the semantic specification into some higher element but leaves behind a copy of the variable. In this way non-Boss-Cases are readily identifiable in terms of the presence of a variable only.

Finally, before returning to the structure and derivation of 133b, there is the question of the place of Subjunction. We suggested earlier that Lexicalisation may precede Subjunction, and thus we could account for the lexical identity of verbs like kill which may have one or two higher DOs into which they are raised. In such terms, the effect of Subjunction will be to subjoin lexical and

semantic elements to a predicate. In order to preserve this view we need Subjunction to be in the cycle with Lexicalisation, and, in fact, to precede it, so that Subjunction first creates a subjunction tree which can then be lexicalised as one lexical item. This lexical item is then available for subjunction on the next cycle. Notice that, in any case, Subjunction could not apply at the same time as Raising, since a semantically fully specified tree is needed in order to be able to determine all facts relating to Boss-Cases and what cases appear in each predication. In fact, the situation in English is not so problematical as there are many verbs which do not show overtly a distinction between the event and causative meaning e.g. melt, cook, break, open etc., which can be accounted for if these are already lexical items resulting from Lexicalisation on some earlier cycle which are then subjoined with CAUSE to move. Thus while DO never influences Lexicalisation CAUSE generally does but there are exceptions, so that it will become largely an accident of English that certain verbs are suppletive as to their event and causative forms. For example, Modern English kill derives from an earlier cwellan - \*cweljan where -j- was a causative infix, the non-causative cwelan meant "die". Thus as it now stands the grammar has the following sub-components: firstly Formation rules, which could equally well be viewed as well-formedness conditions on trees, secondly semantic specification rules inserting elements of the form (TAROO,X), thirdly Raising rules which mark





is a Boss-Case and highest ranked in its predication, highest ranked in that there is an aspect predication above  $N_1$  containing an Abs into which Abl has raised (we are assuming this as we go along and so shall make no further reference to it), thus all the conditions are met for the lexicalisation of x as zibun. If the possessive variable were y, i.e. coreferential with Ziroo, no reflexive form could be inserted since y would be controlled by a Boss-Case which is not the highest ranked case in its predication, namely <sup>All</sup><sub>Abs</sub>, so that some non-reflexive pronoun must lexicalise y.

Notice again that we have Subjunction applying to subjoin  $N_4$  to  $V_3$  yet  $N_4$  governs a Boss-Case and the Boss-Case is distinct from all other cases so that there is no resultant doubling of the same case in any predication.

(e) Cruse

Cruse argues against Lexical Decomposition on the basis that lexical and overt causatives are not synonymous and so cannot be derived from the same structure. However, he concludes from this that the structures must be totally different, the former not involving a decomposed form, while the latter does, yet it is quite feasible and likely, as we shall show, that the differences in structure are not so major, and it is just these slight differences which are sufficient to block Subjunction. We suggested in our earlier discussion that all the restrictions on sentences which Cruse notes are also restrictions on the verb command or order and further that these sentences like

137a. The general marched the men further north

b. The jockey galloped the horse down to the  
starting-point

may have some by-clause in their structure containing command which is never realised. There are many difficulties with such sentences, some of which argue against such an analysis and we shall not adopt it as there are other means at our disposal.

Firstly, by-clauses in general are odd with such sentences, in that in certain circumstances they are superfluous,

138. ?The general marched the men further north by  
ordering them to  
giving orders to his staff

139. The jockey galloped his horse to the starting-  
point by using his whip

Note that in the latter example it is not only a by-clause which is odd, with his whip produces an equally odd sentence. Secondly, if by-clauses are generally odd, there are still examples, usually involving some further adverbial modification, which are acceptable:

140. The slave-master worked the rowers <sup>hard</sup> by standing  
over them with a whip <sub>?</sub>

Finally the structure in general is not very productive.

Most of the verbs in question involve the manner of movement, walk, run, march, gallop, yet other verbs of movement are judged unacceptable in such structures, (speakers seem to reject such sentences out of hand, they are "absolutely" unacceptable, beyond redemption rather than being just odd yet understandable in context):



141. \*The school-master hopped/skipped/jumped the boys back to the school

142. \*The inefficient sergeant strolled/ambled/strutted the men back to their barracks

With the verb run there are stranger things going on, since the type of noun, human or not, which is the object of the verb, is relevant:

143. The master ran the boys back to school

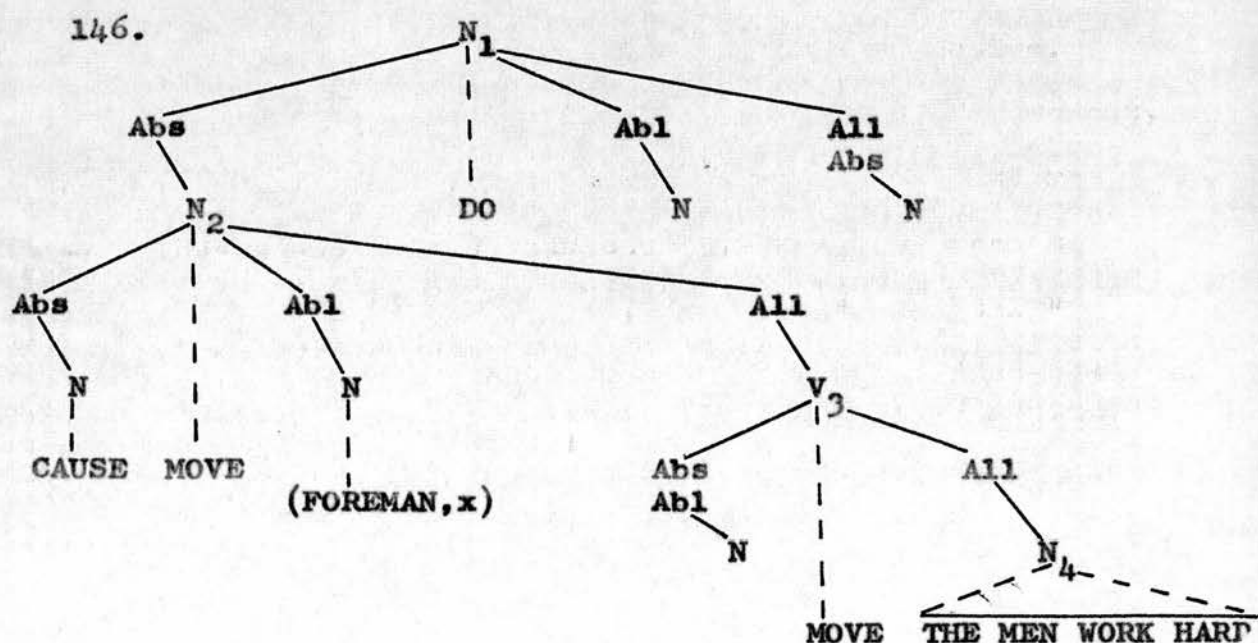
144. The jockey ran the horse twice round the course

With a human noun as object, the verb is more likely to be understood as "give a lift", while the non-human noun selects the "make run" reading. Evidently, then, we are dealing with a series of lexical idiosyncrasies in a structure which may itself be idiosyncratic. The structure is too poorly understood and discussed in the literature for a full treatment here, but we can propose a treatment consistent with our grammar which goes part way to capturing what seems to be going on.

The structure which seems to underly sentences such as:

145. The foreman worked the men hard

would be something like the following:



We do not specify the full structure of  $N_4$ , but it seems that this will have at least an Abl governing (MEN,y), an Abs governing (WORK,z) which will subjoin to DO to form the lexical verb work and a Loc introducing the manner adverb. Thus on the  $N_4$  cycle Abl will raise into  $\begin{smallmatrix} \text{Abs} \\ \text{Abl} \end{smallmatrix}$  and this will raise on the  $V_3$  cycle into  $\begin{smallmatrix} \text{All} \\ \text{Abs} \end{smallmatrix}$  of  $N_1$ . On the  $N_2$  cycle Abl will raise into Abl. When Lexicalisation applies there will be no Boss-Case which can prevent the Subjunction of  $N_4$  to  $V_3$  and of  $V_3$  to  $N_2$  and so on up the structure, so that we obtain the single lexical item work.

This structure will be sufficient to handle the four restrictions which Cruse notes if we supplement the grammar somewhat. The restriction that the object acted upon must be an Agent is captured by having an obligatory Abl in  $N_4$  and marking semantic specifications as insertable under Abl or not. The restriction that the causer must be human is handled in the same way, i.e. in terms of constraints on the insertability of semantic specifications under Abl, if we add to the grammar the restriction that non-human Agents or rather Causes cannot originate under an N dependent on Abl. Rather nouns like flood will occur under a noun dependent on Abs in a predication which is itself governed by an Abl and asserts that a flood occurred, in other words there would be a V-dependent on Abl of  $N_2$ . In the above structure such a predication could not occur since Abl of  $N_1$  governs N and there is no other V in the structure which could condition the formation of a tensed event. The other two factors which Cruse notes, namely the effective transmission

of the causer's will and the obedience of the object acted upon are handled in terms of the higher <sup>All</sup><sub>Abs</sub> which marks direct action. Alternatively we could handle this in terms of a more general area of the grammar which, following Jackendoff (Jackendoff, 1972) we could call Consistency Conditions on semantic structures. In fact, it appears that we should need some such device in any case to handle the oddness of the following:

147a. ?John marched the men, who did not understand his orders, across the yard

b. ?John galloped the horse, which was being totally unresponsive to his orders, across the yard

in that we can associate a presupposition of understanding or obedience on the part of the object with the occurrence of <sup>All</sup><sub>Abs</sub> and then this understanding or obedience is denied in the accompanying relative clause in 147a-b.

Contrasting with structure 146, the structure underlying the overt causative will not have the <sup>All</sup><sub>Abs</sub> in  $N_1$ , so that there is no possibility of the <sup>Abs</sup><sub>Ab1</sub> of  $V_3$  raising. Thus Subjunction of  $V_3$  to  $N_2$  will be blocked by the Boss-Case constraint, since  $V_3$  will govern a Boss-Case <sup>Abs</sup><sub>Ab1</sub> semantically specified as (MEN,y) and there will be a higher occurrence of a Boss-Case <sup>Abs</sup><sub>Ab1</sub> in the higher aspect predication, which is specified as (FOREMEN,x), so that we necessarily have an overt causative.

This point has reference to Keenan's discussion of subjects (Keenan, 1974) and to Seuren's constraint on Predicate-Raising in terms of non-referring expressions, (Seuren, 1974a, 1974b). Keenan introduces the Functional



Principle which applied to language involves being able to identify the referent of the subject and then identifying the truth of the predicate in terms of the subject referent. Thus we could take this to mean that a predicate is referring if it has an identifiable referring subject, which would give us one means of recognising referring expressions, i.e. those which according to Seuren's constraint cannot be raised by Predicate-Raising. Further if we can identify highest ranked case with the notion of subject, then the Boss-Case constraint can also be related to the Functional Principle. Thus  $V_3$  contains a referring expression as a subject since it has a Boss-Case which is identifiable referentially independently. Hence, being a referring expression it cannot subjoin. If we refer back to structure 146 and the derivation where  $V_3$  does not contain a Boss-Case, then we find that the "subject" of the predication, i.e.  $\begin{smallmatrix} \text{Abs} \\ \text{Ab1} \end{smallmatrix}$  which is specified as (y) after raising, cannot be identified independently, that is, we need to refer elsewhere in the tree to identify the referent of the subject. Hence the predicate is not a referring expression and Subjunction can apply. Thus the Boss-Case constraint helps to unify two different proposals.

The second type of sentence which Cruse recognises which, with a lexical causative is not synonymous with the corresponding overt causative is what he calls causation by direct physical action. Thus the following are not synonymous:

148a. John opened every door in the street by shouting "Fire"

b. John caused every door in the street to open by shouting "Fire"

148a he marks as unacceptable, although speakers will accept it if the causer deliberately chose this means of opening the doors. In fact, it seems that part of the difficulty lies in the by-clause itself: firstly in that the type of by-clause is crucial; thus just as 148a does not involve direct physical action, neither does 149:

149. John opened every door in the street by simply smiling sweetly at every housewife he spoke to yet it is fully acceptable. Secondly it is not necessary to have a by-clause in order for the sentence to be understood as involving indirect causation. Consider the following:

150a. Hadrian built a wall across Britain along the most defensible and shortest line available

b. Hadrian caused a wall to be built across Britain along the most defensible and shortest line available

We know that the situation described by 150a involves indirect causation and that Hadrian did not actually perform any act of building, if only because the building took 6 years and Hadrian was only in Britain for a few months during the summer of 122 A.D., yet the sentence is perfectly acceptable and synonymous with 150b. In fact 150a is more acceptable than 150b, this latter appearing to be somewhat archaic to some speakers. The issue is further complicated by the fact that 150a is less acceptable if a by-clause is added:

151. ?Hadrian built a wall across Britain by  
 ordering his governor to build it  
 surveying the possible lines and sending material  
 and men

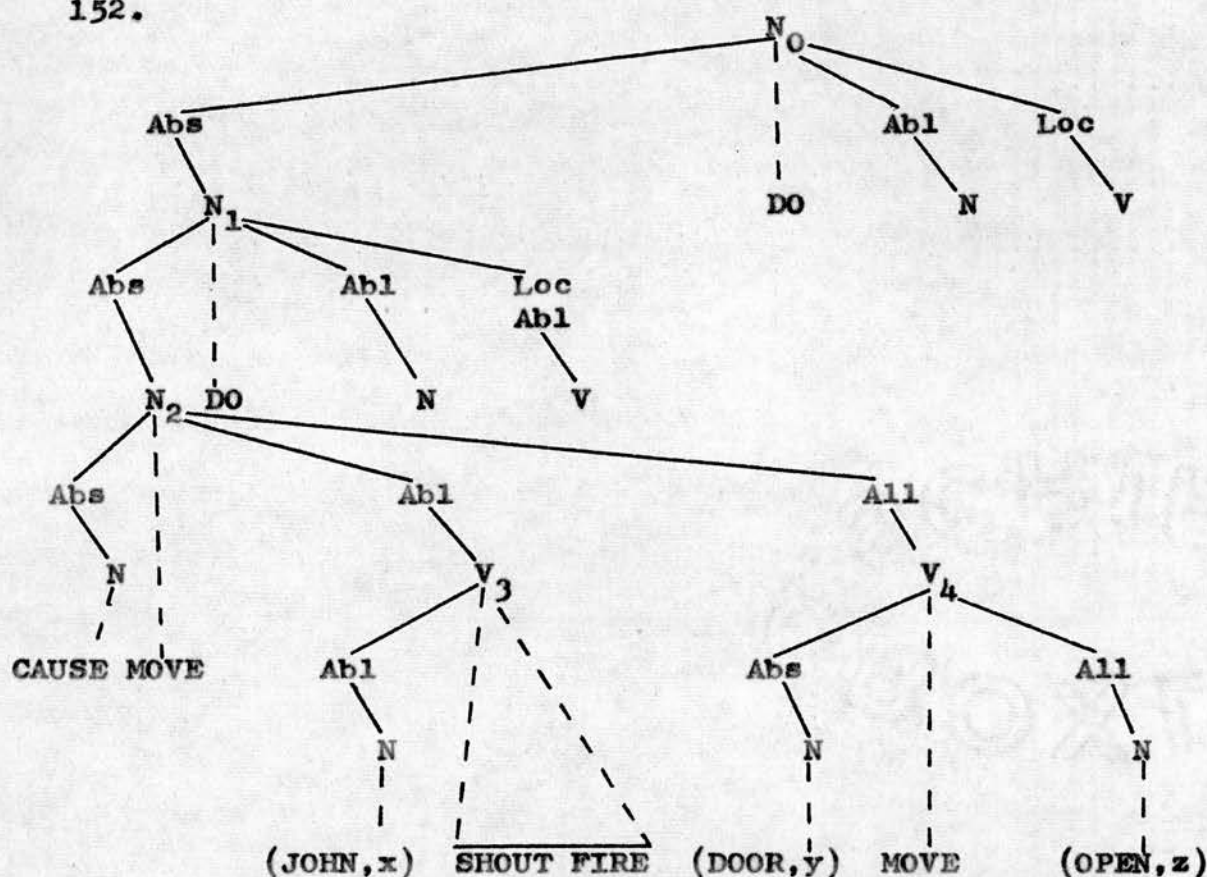
In fact, that the issue is so complex and that acceptability seems to vary from sentence to sentence suggests that we are dealing here not with common properties which can be assigned directly to every semantic structure, but rather with idiosyncratic properties which may best be handled in terms of Consistency Conditions of pragmatics, that is what is the normal way of opening doors, building walls etc and what are the exceptions. One feature that must be handled, however, in a systematic fashion is the intentionality of these acts, that is, it seems that all lexical causatives involving indirect causation either attribute responsibility, as in the case of 128 and 129 above or attribute intentionality to the Agent.

Thus the structure of 148a and of 148b would be the following (see over) where  $N_0$  is the predication expressing intention,  $N_1$  is the action predication which in this case has no <sup>All</sup><sub>Abs</sub>, since there is no direct object on which the Agent can operate directly, i.e. the structure involves indirect causation and the All in  $N_0$  captures the fact that someone benefits from John's action. It is uncertain whether this is ever semantically specified and then blocked from lexicalisation and nothing hangs on this point here. In principle there is nothing to block having this All marked also as Abl so that the Abl of  $N_2$  can raise into both Abl and <sup>All</sup><sub>Abl</sub>, which would account for the possibility of a reflexive in certain circumstances:



153. John opened every door in the street for himself  
by shouting "Fire"

152.



On the  $V_4$  cycle, the Raising rule applies vacuously and on the  $V_3$  cycle Abl is raised into Abl of  $N_1$ . On the  $N_2$  cycle, Abl is raised into  $\text{Loc Abl}$  and on the  $N_1$  cycle, Abl raises into Abl and  $\text{Loc Abl}$  raises into Loc. When Lexicalisation applies, All subjoins to  $V_4$  and lexicalises as open and on the  $N_2$  cycle, Abs subjoins to  $N_2$  as does All, but here again All governs an element which in turn governs a Boss-Case, namely Abs governing (DOOR,y). Notice that this subjunction does not lead to any doubling of cases, there being no higher Boss-Case governed by Abs. For these purposes we need to exclude the Abs governing  $N_2$  and that governing  $N_1$ . This can be done in terms of

distinguishing between non-predicative elements which have a semantic specification of the form (specification + variable) from predicative elements which do not receive a specification involving a variable, so that the Boss-Case constraint refers solely to non-predicative elements. Notice that Subjunction must apply optionally to  $V_4$  in order that we can account for the synonymy of overt and covert causatives. Thus we are in a position to give a stricter version of Subjunction, so that Subjunction is obligatory if the element to be subjoined governs no Boss-Cases, it is optional if it governs Boss-Cases such that there is no higher occurrence of those cases and is blocked if the Boss-Case is identical with some higher case.

#### SUBJUNCTION

Given a structure in which  $N_x$  is directly adjoined to  $N_y$  via case  $K_m$ , then subjoin  $N_x$  to  $N_y$  obligatorily, optionally if condition (a) is fulfilled and block the subjunction if both (a) and (b) are fulfilled:

- (a)  $N_x$  governs a Boss-Noun via case  $K_1$
- (b) there is a higher occurrence of  $K_1$

Before leaving the structure under discussion we must consider what happens to  $V_3$ . After Subjunction  $V_3$  will be governed by Abl which is the highest ranked case in its predication if we reject our earlier suggestion that cases dependent on subjoined elements are adjoined directly to the host, so that we can apply a general constraint which blocks the lexicalisation of elements dependent on the highest ranked case in a predication provided they are not

Boss-elements. This method is easier than what would be entailed by adjoining dependent elements to the host, in that this would produce a structure in which <sup>Loc</sup><sub>Abl</sub> would govern a Boss-element which controls the element governed by the adjoined Abl.

Just as we can handle some of the points which Cruse raises about direct physical action by not having an <sup>All</sup><sub>Abs</sub> in the action predication, so we can use the same device to deal with his third category of "causation of emotion", which we have already suggested reduces to causation by direct physical action (see 3.2.5.d. above). Cruse observes that with the overt causative a reading is more likely on which it is some property of the drug in sentences like:

153. John caused Mary to become annoyed by injecting  
her with a new drug

which actually annoys Mary rather than John himself, i.e. the immediate cause is the drug not John's administering the drug. However, he does not point out that even if the drug is the subject of a lexical causative, then the annoyance-causing-property-of-the-drug reading is unlikely:

154. The drug annoyed Mary

that is some property of the drug such as being difficult to administer annoyed Mary, rather than any annoyance-eliciting property. This latter reading is more likely with the overt causative:

155. The drug caused Mary to become annoyed

Compare this also with:



156a. The electrode annoyed Mary

b. The electrode caused Mary to become annoyed  
where in 156b it would generally be understood that the electrode is implanted in Mary in the relevant area of the brain. In fact, there seems to be in each case two different types of annoyance, corresponding to:

157a. Mary was annoyed

b. Mary showed signs of annoyance but was not really annoyed

the point being that electrodes and drugs can elicit the signs of annoyance, fear, anger etc without speakers actually wanting to describe that situation as involving "natural" annoyance, fear, anger etc, i.e. in the latter case there seems to be some conscious control. A full discussion of this point would take us outside our present concerns, but it is possible that an Abl in the structure of 156a would handle this meaning difference, that is, in the predication which we can represent as MARY BECOME ANNOYED, MARY is governed by <sup>Abs</sup> Abl.

A structure like 152 will handle the sentences like 153 and the related lexical causatives will simply have a further <sup>All</sup><sub>Abs</sub> in N<sub>1</sub>. Given the rule of Subjunction as formulated above, we can thus obtain the correct surface structures. In the case of 153 there is no higher <sup>All</sup><sub>Abs</sub> into which MARY, governed here by Abs, can raise, so that we have the overt causative since the predicate ANNOY governs a Boss-Case and there is no higher occurrence of that case. Notice that in these circumstances, Subjunction

is optional, so that we could in principle have a lexical causative with this reading of the annoyance-causing-property of the drug, which seems to be the case for some speakers. However, the favoured reading of the lexical causative has John's administering the drug as the immediate cause. In this case, there is the higher <sup>All</sup><sub>Abs</sub> and Subjunction is here obligatory since the predicate ANNOY does not govern a Boss-Case. Thus Cruse's arguments do not, in fact, constitute counter-arguments to Lexical Decomposition, in that the facts which he brings forward, one they are more fully discussed, can be accommodated in a grammar which involves Lexical Decomposition and shows the notions of direct and indirect causation to be relevant to Subjunction.

Before leaving this section on indirect and direct causation and their relation to the arguments against Lexical Decomposition, we must return to the one argument against the causative analysis of kill which Fodor makes and which, as yet, we have not considered in this section. This argument involves do so insertion, in sentences like the following:

158a. John caused the glass to melt and it surprised me that it did so

b. John caused the glass to melt and it surprised me that he did so

159. John melted the glass and it surprised me that it did so  
he

160a. John caused Mary to die and it surprised me that she did so

b. John caused Mary to die and it surprised me that he did so

161a. John killed Mary and it surprised me that <sup>he</sup>  
 did so <sup>\*she</sup>

The point is that the acceptability of both he and it in 159 is accounted for in that there are, under the Lexical Decomposition hypothesis, two underlying clauses to which the do so insertion rule can apply, one with he as subject, the other with it. By the same token, there are two underlying clauses in 161, one with he the other with she as subject, but one of the derivations is blocked. Lakoff and Ross (Lakoff and Ross, 1972) deal with the situation in terms of the lexical identity of transitive and intransitive melt as opposed to the non-identity of the corresponding kill and die. The same explanation will hold good for our analysis of the situation. The point is that throughout the derivation of 159 the intransitive verb melt preserves its lexical identity so that the identity of the antecedent of do so is preserved up to surface structure. However, in the case of 161, the antecedent, die, of do so does not pass through to surface structure untouched.

In fact, this point has a more general application in terms of Lexical Islands. There is now a large literature on the Anaphoric Island Constraint, originating with Postal (Postal, 1969) and the exceptions to the constraint (see Watt, 1973a, 1973b, Corum, 1973 and references there). The point is that many islands are, in fact, penetrable:

162a. Sergeant Pepper claims not to drink, but I have  
 seen him take one

b. Jim reviewed that book and it will appear in  
 Linguistic Inquiry

c. Fred is a Londoner, but I wouldn't live there



where the anaphoric elements refer to drink, review and London which appear in the underlying structure as nouns before Subjunction applies. The point is that in terms of Lakoff and Ross's constraint which refers to morphological relatedness the situation is largely accidental. However, if we have cyclic Strict Lexicalisation, insertion of lexical material, followed by Subjunction, we can have a clearer understanding of what is happening in these sentences. We can say that the sentence is well-formed if the lexical item which is the antecedent for the anaphoric element passes through to the surface without Subjunction having created any structure which results in loss of its original form. Thus, taking the "proto-example":

163. \*Fred is an orphan and he misses them  
as opposed to

164. Fred is a parentless child and he misses them  
we can assume that at some point in its derivation 163 passes through a stage like 164, that is essentially we have a head noun CHILD and a modifying element which has the lexical form parentless. This occurrence of parent serves as the antecedent for pronominalisation. If parentless is not Subjoined to CHILD, then we obtain the well-formed 164. However Subjunction will create the subjunction tree with parentless subjoined to CHILD, a tree which must be lexicalised as orphan, in which the antecedent is lost.

Notice that the constraint must, in fact, be an output constraint, stating roughly that a sentence is deviant if

the lexical antecedent of a pronominal element is not present in the surface structure. There are many problems surrounding such sentences which we cannot go into here. Thus, for example, Corum (Corum, op. cit.) talks in terms of a hierarchy. There is also the question of how related the items must be: thus compare the examples cited, where the relatedness is comparatively direct, and examples like the following

165a. ?Flutists are a strange breed, since it appears not to sound shrill to them

b. \*Flautists are a strange breed, since it appears not to sound shrill to them

cited by Lakoff and Ross where the unacceptability which they attribute to 165b is said to be due to the "less relatedness of flautist to flute, with the following:

166. ?Fred is a Mancunian, but I wouldn't live there where there is little "morphological relatedness" between Mancunian and Manchester. Thus there is a very general pattern in English to which the supposed counter-examples of Fodor's belong, and insofar as there seems to be some principle in terms of which we can account for it (even though at this stage this is rather primitive), then there is no need to see the counter-argument as having much force.

#### 4.4.3. Responsibility

We suggested above that responsibility for an action is to be associated with the DO predication (see 4.4.2.b). We can now further explore this suggestion in the light of our earlier discussion of cause and responsibility (see 3.3.1.). One first restriction is that the Agent must be

governed by Abl and not by <sup>Abl</sup><sub>Abs</sub> in the DO predication. This is in accord with our analysis of

167. John surprised Mary by turning out to be so tall as containing a non-Agent since John is dependent on the complex <sup>Abl</sup><sub>Abs</sub> in the DO predication, which distinguishes it from true Agents and Forces which are dependent on Abl. In the case of 167 it is not possible to blame John for surprising Mary, since he has no control over his rate and degree of growth.

We discussed above (see 3.3.1.) Vendler's observation that the following are not synonymous (Vendler, 1967)

168a. John's walking out caused a disturbance

b. John caused a disturbance by walking out

in that 168a does not attribute responsibility to John while 168b does, implying that he is to blame for the disturbance. The underlying structure of both sentences will be virtually the same: namely a DO predication with a predicationa Abs and an Abl, the Abs governing a predication expressing the causal relation between John's walking out and the disturbance. The difference will lie solely in what is dependent on the Abl of the DO predication: in the case of 168a, this Abl will govern a V, which will allow the Abl governing JOHN WALK OUT of the CAUSE predication to raise, while in the case of 168b Abl will govern N and there will also be a <sup>Loc</sup><sub>Abl</sub> governing V which will allow for the formation of a by-clause. Thus we can associate responsibility with a DO predication whose Abl governs N.

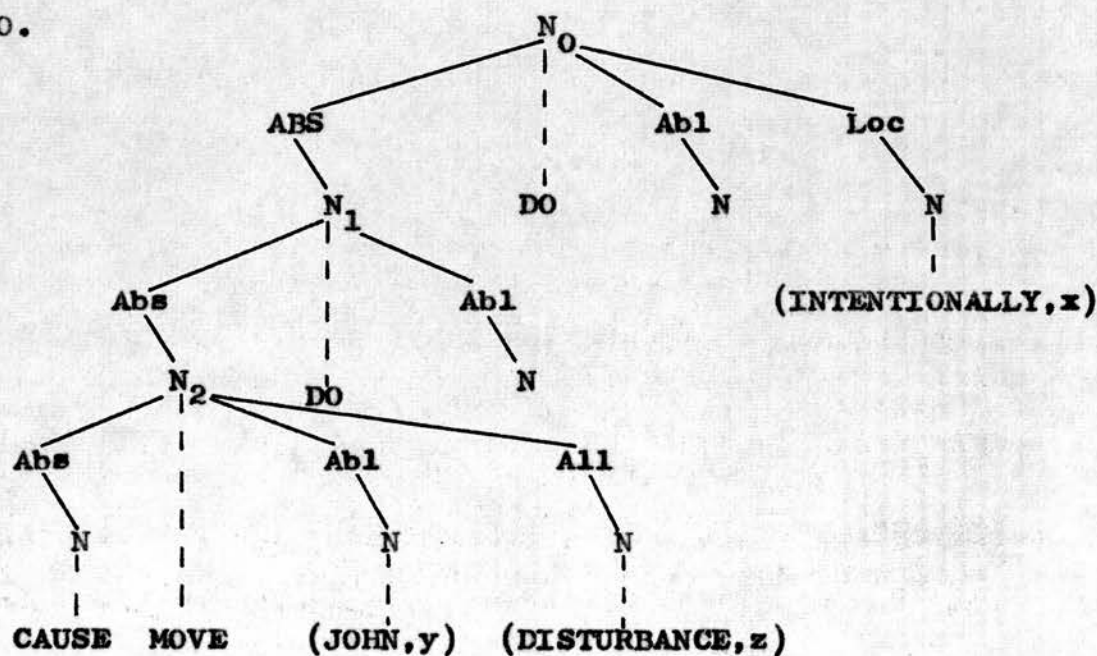
Shibatani (Shibatani, 1973a) uses sentences like 168a



and 168b to argue against the transformational analysis of by-clauses (see 3.3.1.). The first argument, as noted above, relates to the non-synonymy of the two sentences which we have shown can be handled in terms of the nature and structure of the DO predication. The second argument involves such adverbs as intentionally, accidentally etc. in their occurrence in such sentences and can be shown to be without force if the facts can be handled in a straightforward manner in our grammar. Thus the sentence

169. John accidentally caused a disturbance  
would have the structure shown in 170 (see below).  
Abl of  $N_2$  is raised into Abl of  $N_1$ , and thence raised into Abl of  $N_0$ , this latter being the higher purpose predication. Abs subjoins to  $N_2$  and is lexicalised as cause. We could perhaps block the subjunction of All in terms of its governing N, but we cannot here explore this matter fully. Subjunction applied on later cycles does not affect the structure.

170.



The force of Shibatani's argument comes from his assumption that the adverb intentionally originates in the structure underlying by-clauses in all cases. Insofar as we have a higher DO predication to accommodate some of these adverbs, Shibatani's argument has no force here. In fact, Shibatani does not argue for such an assumption and it is difficult to see what data he could use to support it, as at least in sentences like 169 there is no evidence for an underlying structure containing a structure which could surface as a by-clause. However, if this assumption were to be correct, then 169 should have the same meaning as 171

171. John caused a disturbance by intentionally doing something

where there is an overt by-clause. Rather than viewing this non-synonymy of 169 and 171 as counter-evidence to his assumption, Shibatani claims that this is a refutation of the transformational analysis of by-clauses. In fact, the non-synonymy is handled neatly in our grammar by positing a higher DO predication containing the adverb intentionally in the structure underlying the by-clause, that is in the relevant structure there is no  $N_0$  predication, and the Abl of  $N_2$  governs a purpose predication, itself governing a predication of John's doing something. The fact that 171 may be synonymous with 172

172. John intentionally caused a disturbance by doing something

would be handled by a higher predication  $N_0$  containing an empty Loc, into which INTENTIONALLY may raise from the lower purpose predication. However, allowing such a structure

with two Locs would also allow, in principle, two semantic specifications and such sentences are somewhat odd:

173. ?John accidentally caused a disturbance by  
deliberately walking out

This could be handled in two ways: firstly having a constraint on the rules of semantic specification to the effect that if the higher Loc is semantically specified, then there can be no specification for any lower Loc, or alternatively we allow both Locs to be specified and then have recourse to Consistency conditions which state which pairs of adverbs are acceptable. Thus there seems to be something of a hierarchy: 174a seems to be better than 173 and 174b seems to be worse:

- 174a. John deliberately caused a disturbance by  
intentionally walking out

- b. \*John deliberately caused a disturbance by  
accidentally walking out

Although we cannot go into enough detail here to strongly motivate either of the possibilities over the other, at least there is in principle a means of dealing with the sentences which is in accord with our proposals and which does not involve any new mechanisms out of keeping with the form of the grammar.

One point which does arise from this discussion is that as it stands the grammar will handle adverbs like accidentally, carelessly etc in the same way as deliberately, carefully etc, that is by introducing them under the Loc of a purpose DO predication. This feels somewhat counter-intuitive and it would be better to handle them in terms of a MOVE predication containing a Loc. Thus the structure of



175. John accidentally caused an accident would have a MOVE predication dependent on the aspect predication, with an Abs governing a structure expressing the fact that John caused a disturbance. The adverb accidentally would originate under the Loc of this MOVE predication. If the Abs is not subjoined to MOVE, then the structure would lexicalise as:

176. John's causing a disturbance happened <sup>by accident</sup> ~~accidentally~~  
Again we find Loc lexicalising as by or as an adverbial suffix -ly. However, the same structure would allow the derivation of another sentence, if we allow JOHN to raise into the Abs of the aspect predication, Abs to subjoin to MOVE and Loc governing ACCIDENTALLY to also subjoin to MOVE which results in its lexicalisation as happen:

177. John happened to cause a disturbance which is synonymous with 176. Thus we can restrict the semantic specification of Loc as DELIBERATELY or ACCIDENTALLY and the like in terms of the presence or absence of an Abl introducing an Agent.

#### 4.4.4. In retrospect

In this chapter we have made some initial proposals concerning the form of a Localist grammar and how it can capture the notions of direct and indirect causation. The grammar will have three components: firstly a set of formation rules which produce a hierarchy of predications underlying each sentence of the language and a semantic specification sub-component. This sub-component enters one semantic specification for each actant in the "real

world" situation into the structure at the point which we have called the "lowest", this being defined in terms of the case hierarchy. Thus the "lowest" predication will be that governed by the case which is highest on the case hierarchy, Abs, Abl, All, Loc. This notion of "lowest" is also relevant to the application of other rules, in that rules cycle on the "lowest" predication first. We have also suggested that semantic specification is also constrained in terms of the case which governs the term to be specified. Thus nouns will be marked as to whether they can be inserted under Abl, i.e. can refer to Agents.

The second component of the grammar is the Raising rule, which applies cyclically. Each semantic specification will take the form of a variable plus a semantic content. Raising is controlled by the governing case, that is a term may be raised into a higher term if the case of the raised term is the same as the case of the higher term or if that higher case is a complex case in which the relevant case occurs. Insofar as we have simple and complex cases it is possible to find situations in which there are two occurrences of a case, once as a simple case and once as a component of a complex case: in this case, the lower case is raised into the simple before the complex case if both are unspecified. Raising leaves behind a copy of the variable, which may be deleted or lexicalise as a pronominal form. Raising will also allow an unspecified lower term to raise into some higher specified term, in which case a copy of the variable is added under the lower term.



The third component is responsible for Lexicalisation and again applies cyclically. There will be three rule types in this component, firstly the rule of Subjunction, secondly Linearisation and thirdly Strict Lexicalisation. Subjunction is responsible for subjoining some adjoined term to the governing element and on a simple level is responsible for the simultaneous realisation of two or more semantic entities in one lexical item. Linearisation takes the unordered structure and imposes order on it, making essential reference to the case hierarchy. We have suggested that a secondary effect of Linearisation is the process of Subject-Formation, but this is one major point to which we return below (see Chapter 5). Finally Strict Lexicalisation substitutes lexical items for Subjunction trees.

Referring back to section 4.4.2., we summarised there the basic suggestions relating to activity and accomplishment sentences and related phenomena. We can now see to what extent we have captured these points.

(i) We have three types of predication: purpose DO which allows only an N under Abl which captures the notion of Agent, a responsibility DO which allows for Agents, governed solely by Abl where the term is N, Forces, governed by Abl where the term is V and <sup>All</sup>Abs to capture the object acted upon, and finally a CAUSE predication which takes CAUSE as the element governed by Abs and sentential Abl and All.

(ii) The distinction between complete and incomplete



verbs is not explicitly covered, but insofar as the former take Agents while the latter take Forces, we might correlate this distinction with the presence or not of an underlying CAUSE in that by-clauses, which are only possible with incomplete verbs, originate in the Abl of a CAUSE predication.

(iii) Again the internal/external object has not been discussed explicitly, although the sentences analysed have involved the external object rather than the internal object insofar as they have an object correlated with the preposition to rather than with. Thus external objects seem to be correlated with the presence of <sup>All</sup><sub>Abs</sub> and the notion of Patient of an action. Again it is possible to see here a correlation with the underlying predication CAUSE, in that such objects originate in the predication governed by All of a CAUSE predication.

(iv) All the sentences discussed have been accomplishment sentences, which again correlates with CAUSE, but we shall explore this further in the next chapter and see that the correlation is not so direct.

The gaps which we discovered here plus the brief discussion of instrumentals in chapter 3 (see 3.3.) serve to define our aims for the next chapter. As an overall aim, we shall use chapter 5 to extend our grammar by testing its adequacy for other areas of English and by further refining the rules. The area of English to be studied is to be delimited by two factors, firstly, activity sentences, which will allow us to consider further the CAUSE predication

and also the internal object, which, as we have noted, is related to the preposition with and secondly our concern with instrumentals, which will also involve the preposition with. Thus in the next chapter we shall deal largely with the preposition with as our main area which will be the basis for extending the grammar.

## CHAPTER 5

## The Preposition "With" and Related Matters

## 5.1. A Statement of the Situation

What little there is in the literature on the preposition with treated in a transformational generative framework consists largely of disconnected observations, in that it has only been considered in as far as it has bearings on other aspects of English grammar. A unified treatment of it is lacking, although we do not pretend that this survey should fill the gap, but merely indicate its extent. There seems to be general agreement that with is a preposition that marks the Instrument, the Comitative and the Object with certain verbs and moreover that there is a relationship between this preposition and the verb have. The one major thing which is missing is some explanation of why it is associated with just these uses and no others.

Vestergaard (Vestergaard, 1973) discusses the proposal by Fillmore (Fillmore, 1968) that in such sentences as:

1a. John smeared paint on the wall

b. John smeared the wall with paint

paint is in both cases an underlying Instrument and he argues that it would be more reasonable to treat it as the Object. Similarly he argues that with also marks the Object with verbs like collide, as in

2. The ship collided with the pier

His hypothesis extends naturally to adjectival with-phrases, such as the boy with a stick and the shelf with the books on it. However, there are several uses which do not support



such a straightforward hypothesis, the with of Instrumentals, of the possessor, as in

3. The man has the book with him  
of attendant circumstances

4. With the window open, I can't concentrate  
of certain "reciprocal" verbs

5. John agreed with Bill

6. John identified universal quantification with and-ing  
of location

7. Your keys are with your wallet  
of profession or job

8. John is with the police

9. Mary has moved: she's with Personnel now

Certainly there is reason to believe, as we shall see, that with is to be related to expressions of location and, if this is correct, then Anderson's Localist proposals provide one means of linking many of these different uses.

Of the two more extended studies of the preposition with, one restricts its scope to four "apparently dissimilar environments" (Lee, 1969: 31) and the other is more concerned to show the diversity of its uses rather than with the possibility that there may be some unifying factor (Nilsen, 1973). Not working within a case grammar framework, Lee views the occurrence of with as a relatively low-level phenomenon which has no implications itself for the meaning of the sentence. His hypothesis is that there is "a transformation which prefixes with to subjects of English sentences" and shows that such a transformation will account

for the occurrence of the preposition in the following four constructions:

10. The house with the shutters was torn down
11. With the radio playing, you can't hear the canary
12. John planted the field with corn
13. Harry put his car in the garage and Mary did the same with hers

Notice firstly that this hypothesis leaves many of the cases which we listed above without any explanation, unless one is willing to alter the deep structure posited for such sentences so that in all examples the noun marked by with is at some point a subject and add to the grammar rules just to account for this: such a move seems to be difficult to justify. Moreover, such a proposal depends on the prior assumption that there is such an animal as a deep structure subject, an assumption that some would question (Fillmore, 1968, Lakoff and Ross, 1968, Anderson, 1976). One's unease about the proposal is increased when Seuren (Seuren, 1973) associates dative prepositions in French and other languages with deep structure subjects which lose their subject-status due to Predicate-Raising. Finally Lee offers no reason at all why with should mark the subject of an embedded sentence as opposed to any other preposition. In fact, it cannot even mark all deep structure subjects: one obvious candidate for such an environment would be the passive, but here the original subject would have to be marked by with and the passive would then delete this preposition and then add by.

If Lee restricts his study, then Nilsen goes to the opposite extreme with an extensive list of the uses of with:

(a) possessive with

14a. the shelf with books on it

b. the boy with red hair

(b) objective with

15a. John smeared the wall with paint

b. John supplied them with money

c. Mary has the children with her

d. John is happy with his wife

(One may well quibble with some of Nilsen's analysis, although since there is no reasoned basis given for many of them, such an endeavour is unlikely to be productive. For instance, what reasons are there for treating her as an Object in 15c? We might alternatively class it as a comitative or emphasise its relation to the expression of location, that is, the location of the children is "with Mary". Likewise, with his wife in 15d could, with as much justification as Nilsen gives, be viewed as a causative or under one reading as an expression of attendant circumstances, i.e. "when he is with his wife".)

(c) comitative with

16. He is coming with his wife

(d) proximity with

17a. Your keys are with your wallet

b. The Holland Tunnel links New York with New Jersey

(With regard to 17a, compare 15c and its paraphrase

The children are with Mary.)



(e) Extent with

18. John bought the book with £5

(f) instrumental with, which Nilsen splits into four categories on the basis of purely "real world" properties

19a. He built the castle with granite (material)

b. He cut the wood with a saw (tool)

c. God destroyed the village with an earthquake (natural force)

d. He pulled the trigger with his left index finger (body part)

(g) manner with

20a. He handed in his assignments with regularity

b. She sang with unexpected enthusiasm

Nilsen makes no explicit suggestions for the treatment of with, seeming content with an excess of atomisation which gives the impression that no unified treatment is possible. His sub-categorisation seems to be completely arbitrary and in the case of the Instrumental appears to be based more on the classification of the real-world entity referred to rather than on any linguistic notion of the relation between noun and verb. It is clear from the preceding discussion that there is a problem: either we can arbitrarily restrict the uses of with and give a false impression of unity or adopt a Nilsenian taxonomy which impedes rather than helps a unified treatment.

One assumption that is basic to our treatment of the preposition with and which also underlies our criticism of other proposals concerning the preposition is a naturalness

assumption (see Zwicky, 1968 for the term), namely that if a form occurs in apparently different structures, then it is the case that there is some element or property common to those structures which conditions that form. This reduces to the claim that the recognition of homonyms should be the last resort once the hypothesis that we are dealing with the same form has been refuted or proved to be untenable. Without such a governing assumption, it would become difficult, if not impossible, to say anything of consequence in linguistics, that is, to make linguistically significant generalisations. Thus, as a principle governing our approach to the preposition, we assume that, however many uses there may be for the preposition, there is some factor common to each of them.

The hypothesis which conditions our approach, and which has not been fully explored in the literature to date, is that with is a marker of location, so that whenever it occurs we can hypothesise that at some point in the derivation the noun phrase marked by with is dependent on Loc or some complex case governed by Loc. Notice that such a hypothesis does allow us to sort and classify the data according to some governing principle and the data will not be an accidental list of uses. Any taxonomy, to be useful, must have some overt governing principle.

In adopting the locational hypothesis for the preposition, it may seem that we are prejudging the issue. However, there are good reasons for this assumption of a Loc-marking function for the preposition. Firstly, we

noted in Chapter 2 that the form with, the modern reflex of Old Norse viþ, replaced the Old English form mið, both of which originally marked location and derivatively comitative relations, so that in its origins, at least, with was a locative marker and one might expect to find vestiges of this use in the modern language. One might also expect to find vestiges of the second use of the Old Norse form, namely to mark motion towards and adversative phrases which, in Modern English, are marked by against, compare fight against/with. Secondly, in Chapter 2, we also noted a relation between Locative, Comitative Instrumental and Agentive markers in many languages; given that the Localist hypothesis claims that the abstract uses derive from the concrete ones, even if we had no Old English texts at all, on this basis we could hypothesise that the abstract uses of Comitative and Instrumental with derive from some earlier Locative function.

In claiming that with is to be viewed as a marker of Loc in Modern English, we are, in fact, making a strong claim: it is quite feasible that we are not dealing with one factor conditioning all its uses, but rather with a "family resemblance": Locative could have a factor in common with Comitative, Comitative a factor in common with Instrumental, and Instrumental some other factor in common with Agentive. Moreover, we must be aware that both viþ and mið (to a lesser extent) had adversative functions, which could influence the matter. In fact, we find in some languages that there is no clear and absolute



distinction between expressions of Location, Adversative and Goal cases. Before going further, we must make clear what we mean by "adversative": in terms of motion we can distinguish between two types of movement to a place, namely achieved and non-achieved goal, the former we shall call Goal and the latter Adversative. Thus Benefactives, as a sub-class of purpose expressions, will be classed as Adversative, the for-phrase in the following would likewise be Adversative:

21. John set out for Cupar

The fuzziness of the distinction between the three categories is probably best seen in English. Thus to seems to be the primary marker of Goal, but it also marks purpose expressions, which we have classified as Adversatives (in fact, the Stoke-on-Trent dialect appears to distinguish between purpose expressions marked by /fə/ (for) and /tə/ (to), the former marks lack of success, the latter success). Similarly at marks Locative and also Adversative:

22a. John threw the book at Bill (compare to Bill)

b. John aimed the gun at Bill

As we noted above (2.2.3.2.), in the system of verbal extensions, Swahili groups Goal and Benefactive together. The Latin dative case, used as an expression of Benefactive, i.e. Adversative, also marks the Goal of verbs of giving and the "recipient" of verbs of emotion:

23. Irascor tibi

'I am angry <sup>with</sup> at you' (N.B. English with or at here)

That this may be Goal rather than Locative is shown by the fact that when the Latin case endings decayed the preposition used to supplement them was ad, "to", yet morphologically the dative case appears to be related to the Locative case form of Indo-European.

In organising the basic data, we reject the "semantic" approach of Nilsen and turn to the syntactic patterns in which with occurs, these being the following:

- i.  $NP_1$  with  $NP_2$
- ii.  $NP_1$  with  $NP_2$  Prep  $NP_1$  (where Prep may be with)
- iii.  $NP_1$  be with  $NP_2$
- iv.  $NP_1$  have  $NP_2$  with  $NP_1$  (where any other Locative preposition may substitute for with)
- v.  $NP_1$  be Adj with  $NP_2$
- vi.  $NP_1$  V with  $NP_2$
- vii.  $NP_1$  V  $NP_2$  with  $NP_3$
- viii. with  $NP_1$ , NP V (NP....)

Of these patterns, i-iv seem to be related in that they are all essentially statements of location or possession, this latter being itself a sub-type of location (see Lyons, 1967, 1968, Christie, 1970 Anderson, 1971a among others) while pattern vii covers several different semantic constructions, at least Instrumental with and the with used after verbs like load, spray etc. Given that we adopt the Locational hypothesis for the preposition with, if patterns i-iv are statements of location, then we have some basis for postulating the presence of structures like those underlying these patterns in the underlying structure of sentences of

the patterns v-viii. Thus our first aim is to specify the structure(s) underlying patterns i-iv and then to see how far this will generalise to the other patterns.

#### 5.1.1. Localism and States

We take "states" to refer to the following: concrete location, abstract location such as emotional states, aspectual states like the progressive, professions and jobs (doctor, in the army etc.) and expressions of possession (Lyons, 1967, Anderson, 1971a). Swahili makes these relations more overt than most modern Indo-European languages, in that they are all marked in essentially the same way, and the data also bear on the uses of the preposition with. In what follows we shall briefly present the expressions of state and possession in Swahili (for more details on possession see Christie, 1970) with reference especially to the occurrence of the particle na and forms which may be related to it.

Swahili has four locative affixes, three prefixes ku-, pa- and mu- and the suffix -ni. The function of this latter is to form a locative noun from any non-locative base: thus nyumba and meza mean "house" and "table" respectively and by adding the suffix -ni we obtain the forms nyumbani and mezani which Ashton (Ashton, 1944) translates as "to, at, in, by, from the house/table". The role of the prefixes is to mark concord relations and to further specify the location, by, in part, filling the role of the actual prepositions of English. The prefix ku- marks indefinite location, proximity and the source and goal, pa- definite



location and mu- within-ness or inside. By concord relations we mean subject-verb concord as in sentences like:

24. Mwituni pamelala watoto

"forest"+Loc Loc+perf+"sleep" Pl.pref.+"child"

'In the forest there slept some children'

25. Nyumbani pana watu wengi

"house"+Loc Loc+"with" Pl.pref.+"person"

Pl.pref.+"many"

'The house has many people in it'

Patterns like 24 where subject-verb concord is between the verb and a locative noun are perhaps comparable to English sentences like:

26. The boat sleeps seven people

although the Swahili sentence reports an actual event rather than a potentiality. The other occurrence of concord marking is with what Ashton calls the "a of relationship" and the "o of reference". Thus we find:

nyumbani pa Bwana at the house of Bwana (pa+a=pa)

nyumbani mwa Bwana in the house of Bwana (mu+a-mwa)

and kwa Bwana (ku+a=kwa) without any head noun is often used where in English we would say "at Bwana's" (compare French chez). The locative prefixes combined with the "o of reference" are used in certain predications of location.

27. Kisu kiko mezani

ki+"knife" ki+ku+o "table"+Loc

'The knife is near the table'

where the prefix ki- is the class prefix of the noun "knife" and there is no overt verbal element comparable to English is.

28. Kisu kipo mezani

'The knife is on the table'

29. Kisu kimo sandukuni

'The knife is in the box'

Ashton explains the "o of reference" as a means of "directing attention to some word or words already mentioned or about to be mentioned...", although this does not sufficiently distinguish it from the "a of relationship". An alternative to marking the noun with the locative suffix is to use a general locative preposition, katika: thus both katika afisi and afisini mean "in the office" and behave alike with respect to concord.

In talking of the Swahili equivalents of copula sentences, Ashton divides them into three categories: identifying, descriptive and states. In identifying expressions where the subject is first or second person, the first or second person subject marker is used without any overt copula element:

30. Ni mpishi 1st. sing. m+"cook" 'I am a cook'

31. U mpishi 2nd. sing. m+"cook" 'You are a cook'

For the third person subject the form ni is used, which is generally looked on as being related to the locative suffix -ni rather than to the first person singular prefix ni-:

32. Hamisi ni mpishi "Hamisi" "in" m+"cook"  
'Hamisi is a cook'

For descriptions we find either the subject prefix or ni: thus Ashton gives 33a and 33b as alternatives with no difference in meaning:

33a. Hamisi yu mrefu "Hamisi" 3rd. sing. m+"tall"

b. Hamisi ni mrefu "Hamisi" "in" m+"tall"  
'Hamisi is tall'

For expressions of state, i.e. essentially contingent properties, Ashton will admit only the subject prefix:

34a. Hamisi yu dhaifu

'Hamisi is weak'

b. Sahani zi safi

'The plates are clean'

c. Sisi tu tayari

'We are ready'

The distinctions which Ashton makes are not all that clear or systematic and it seems to be the case that Swahili speakers are now generalising the use of ni as a general copulative element (see Polome, 1967 and data given by J. Christie in a seminar in Edinburgh support this).

Of more importance to our present question is the relevance of these data to the parallel between concrete and abstract states. Thus for locative sentences, we have the following patterns:

35. Juma <sup>ni</sup> yupo katika afisi (yu=subj. marker: pa+o=po)  
'Juma is in the office'

36. Juma yupo jeshini ("army"+ni)  
'Juma is in the army'

Thus we have the same structure for concrete location in an office and abstract location "in the army". Similarly we find:

37. Mlango <sup>ni</sup> uko wazi (u=subj.marker: ku+o=ko)  
'The door is open'



where a locative element appears in Swahili which is missing in English. The same parallel is found for concrete and abstract expressions like "in my house" and "in my childhood", namely nyumbani mwangu and utotoni mwangu, where in both cases -ni is suffixed to the noun and the concord marker mu- is prefixed to the possessive pronoun. A second means of expressing abstract states is exemplified by the following:

38. Hamisi yupo katika hali ya masikitiko

"Hamisi" 3rd. sing.+pa+o "in" "state" i+a "sorrow"

'Hamisi is in a state of sorrow'

It is of interest to note that the hali ya structure is also used, although rarely, as a means of expressing the progressive aspect:

39. Hamisi alikuwa katika hali ya kusema

"Hamisi" 3rd.sing.+past+"be" "in" "state" i+a  
ku+ "speak"

'Hamisi was speaking'

In fact, hali ya is not obligatory in such sentences. The form kusema is, in fact, the infinitive form of the verb, that which is given as the citation form. Like the English infinitive, kusema can be analysed as a root -sema plus a locative prefix ku-. The normal form of the progressive is with the prefix na-, which may be treated as related to the na translated as "with" in 25 above:

40. Hamisi anasema

"Hamisi" 3rd.sing.+"with"+"speak"

'Hamisi is speaking'

We return to the question of na below. Thus from this brief survey, there is some evidence that concrete location, abstract location and progressive aspect may have the same, or at least very similar, underlying structures.

Further evidence comes from the expressions of possession and the use of the form na and the related kwa (=ku+a). Notice that just as kwa can be analysed as a locative form plus the "a of relationship" so na can be analysed as the locative element ni plus this "a of relationship". Compare, then, the sentences given as 25 and 27 above:

25. Nyumbani pana watu wengi

27. Kisu kiko mezani

We glossed the -na of pana as "with" and structures like 25 are typically used to express possession, although here the subject does not have the locative suffix:

41. Watoto wana vitabu

pl.pref.+"child" pl.pref.+"with" pl.pref.+"book"

'The children have the books'

The differences are that the "subject" noun is not a locative and the normal concord marking is placed on the "verb", as opposed to the locative "subject" noun in 25 and locative concord marking. Notice that in 25 with a locative subject, it seems to be the case that the "a of relationship" is suffixed to a locative element ni, while with a locative object, as in 27, the "o of reference is suffixed to ku-. Alternatively we could characterise 27 as containing a locative element ku-, a "pronominal" form which the "o of reference" marks as referring or as coreferential with a

locative noun, while 25 contains a locative element ni which is put in relationship via the "a of relationship" with a non-locative noun, namely watu wengi. Comparing both 25 and 27 with other sentences expressing concrete or abstract location, we can say that they all contain a subject with subject concord attached to some locative element, that is we can analyse both 25 and 27 as predicating some location or state of the subject. Further, we can go on to give a more explicit characterisation of the difference between the "o of reference" and the "a of relationship" than that found in Ashton (Ashton, 1944). Firstly, as noted, there is a structural difference, the "o of reference" is followed by a locative noun, while the "a of relationship" is followed by a non-locative noun, and secondly we can place a literal interpretation on Ashton's definitions: the "o of reference" marks referential identity of the locative element ku and the following noun, such that in 27 the knife is stated to be in a place such that it is near the table, the table is the location of the knife, a on the other hand marks the fact that there is some relation between the location or state referred to by ni and the object referred to by the following non-locative noun, so that in 25 and 41 the subject is in a location or state which can be identified by reference to "people" and "books" respectively. Thus we need in the grammar some distinction between the following noun actually being the location or state of the subject, as opposed to being some distinctive element or property of that state, with respect to which it can be



identified. We shall consider this further below and try to show its relevance to the English preposition with (see 6.1.2.).

We have suggested that the particle na can be analysed as a locative element ni plus the "a of relationship. In fact, the distribution of this particle is not limited to expressions of possession. As already noted, this is also the marker of the progressive aspect: so that an alternative to 39 would be:

42. Hamisi alikuwa anasema

"Hamisi" 3rd.sing.+"past"+"be" 3rd.sing.+"with"  
+"speak"

'Hamisi was speaking'

Anderson, (Anderson, 1973), cites other examples of African languages where there is a relationship between possession and progressive aspect. Similarly, Wise (Wise, 1975) gives data from Colloquial Egyptian Arabic which suggests a relation between habitual and progressive aspect and the marker of the Instrumental case (cf. English with, comitative, possessive and instrumental). The fact that we find such an alternation between katika and na supports our analysis, but even if na itself were not a candidate for treatment as a locative plus some other element, the occurrence of katika (hali ya) in progressives would be a subject for close scrutiny in terms of the Localist view. Hali is normally translated as "condition, circumstance, situation", which is suggestive for the current trend in English to use a paraphrase with situation wherever possible (for examples, see the collection made recently by Private Eye).

There are several other occurrences of the particle na where a locative notion is present and which have a bearing on the preposition with and which also provide indirect support for a locational hypothesis for this preposition. Firstly na is a comitative marker:

43. Hamisi alikwenda sokoni na Juma

"Hamisi" 3rd.sing.+"past"+"go" "market"+Loc  
"with" Juma

'Hamisi went to market with Juma'

The phrase na Juma may also appear before the verb, in which case one has the option of using the singular subject marker a- or the plural marker wa-, that is na functions as a conjunction:

44. Juma na Ali alikwenda sokoni

'Juma went to the market with Ali'

45. Juma na Ali walikwenda sokoni

'Juma and Ali went to the market'

The conjoining function of the particle na is shown by the fact that it is replacing tena "again" as the marker of sentential conjunction.

Probably related to its comitative use is the use of na with reciprocal or associative verbs. These are formed in Swahili by adding the suffix -na to the verb (see Ashton, op. cit., Whiteley, 1968) and this verb itself may then be followed by a na-phrase.

46. Wazee watashirikiana naye katika mahurudhio

pl.pref.+"old" pl.pref.+"fut.+"share"+"with"  
"with"+"him" in attendance

'The old men will co-operate with him in matters of school attendance'

## 47. Walipatana

pl.pref.+"past"+"get"+"with"

'They agreed with each other' (compare English get together with)

It is generally agreed that the reciprocal meaning of the na-extension is secondary and derives from the original associative meaning. Notice that this situation is paralleled by some Indo-European languages, where with associative and reciprocal verbs an element may be affixed which elsewhere means something like with: thus in Latin con- (=cum) has this function as does s- (=s) in Russian.

The particle na is not used for the Instrument: this gap is filled by the structurally similar form kwa, analysed as the locative prefix ku- plus the "a of relationship".

48. Hamisi aliua Juma kwa kisu"Hamisi" sing.pref.+"past"+"kill" "Juma" "with"  
"knife"

'Hamisi killed Juma with a knife'

Besides marking the Instrument, kwa, like English with is used in other manner adverbials:

49. Alikwenda sokoni kwa miguu

'He went to market on/by foot' (Lit. "with feet")

50. Aliwaua kwa haraka

sing.pref.+"past"+pl.pref.+"kill" "with" "haste"

'He killed them hastily/in haste/with haste'

Finally kwa is also used in expressions of causation e.g. kwa sababu ya "because of" (Lit. "with reason of")

51. Alikufa kwa baridi

sing.pref.+"past"+"die" "with" "cold"

'He died of cold'



Finally, the marker of the Agent in passive sentences is the particle na. In fact, kwa and na in terms of their morphological analysis seem to be very like English with and by in terms of their historical development, that is all involve some locative element. In the same way the two forms in the two languages are used to cover the same spread of functions, Locative, Comitative, Associative, Agentive, Instrumental, the only difference being that in the two languages the forms have carved up the continuum between Locative and Agentive in rather different manners.

Thus Swahili shows fairly clear data which corroborates the Localist hypothesis of a relation between concrete states and abstract ones. Further the uses of na correlate well with those of the preposition with so that some of the facts observed in Swahili may be relevant to English, in particular the distinction between the "o of reference" and the "a of relationship, where it is the latter which seems to be related to the uses of with.

#### 5.1.2. Location, Possession and with

Anderson (Anderson, 1973b) has suggested that one means of accounting for the unacceptability of the progressive aspect with stative verbs such as:

52. \*John is knowing the answer

53. \*John is having red hair

54. \*John is being from a good family background

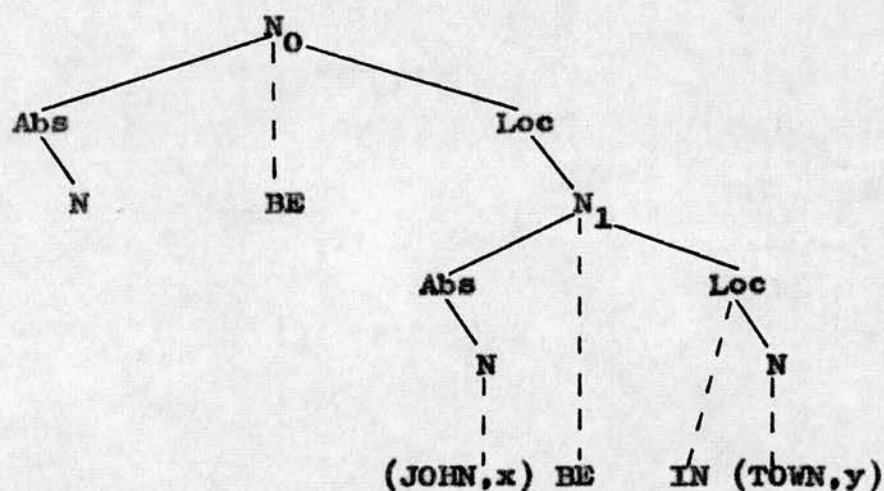
would be to assume that the simple predication of state is itself dependent on the Loc of a progressive predication. In this way we can also account for the semantic relation

between statives and progressives, both involving the notion of being in a state. Thus the underlying structure of

55. John is in town  
would be 56 (see below)

where  $N_0$  is the progressive predication. Abs of  $N_1$  will raise into the higher Abs. Further, if we allow a stative predicate like BE to subjoin to a higher stative predicate, then we automatically block any surface occurrence

56.



of a progressive form. If non-stative predicates are blocked from subjoining to stative predicates, then we can account for the progressives and the occurrence of -ing as a nominal suffix. These must remain as tentative suggestions and cannot be explored fully here, but this will serve as a background to our discussion of patterns i-iv (see 5.1. above).

In fact, although we talk of patterns i-iv, it would probably be more accurate to talk of only two patterns iii and iv, since i and ii respectively derive from the former

perhaps via a rule which is similar in effect to Ross' Whiz-Deletion (Ross, 1967) such that i and ii are verbless variants of iii and iv.

As soon as we turn to the data for with in such sentences which we have identified most closely as locational, we find that our hypothesis that with is a locative preposition of the same status as in has no strong immediate support, at least, in that 57 and 58 are not paraphrases of each other:

57. Your keys are in your wallet

58. Your keys are with your wallet

While 57 asserts identity between the location of the keys and the wallet, i.e. the wallet is the location of the keys, 58 asserts that there is some relation between the location of the keys and the wallet, the wallet is not exactly the location of the keys, but it can be identified by reference to the location of the wallet. Leech (Leech, 1969) characterises the difference in terms of "simple" versus "relative" position. In 57 wallet is the simple location of the keys and in 58 it is the relative location. This distinction may be compared with that made for Swahili by Ashton (Ashton, op. cit.): simple location will correspond to the "o of reference", i.e. identity between location of keys and the location defined by wallet and relative location will correspond to the "a of relationship".

It is possible that any difference that there may be between simple and relative location, i.e. between in and with could be handled simply in terms of the semantic interpretation assigned to these prepositions. However,



this seems to suggest a closer parallel between the two forms than appears to be the case, that is there is evidence that there is a difference in structure to be assigned to 57 and 58. Notice firstly that 57 and 58 differ in that 58 is logically symmetric with 59:

59. Your wallet is with your keys  
that is, if your keys are in the location defined by reference to your wallet, then your wallet is necessarily in a location which can be defined by reference to your keys. However, there is no corresponding logically symmetric form for 57:

60. \*Your wallet is in your keys  
Further 58 and 59 both entail 61:

61. Your wallet and your keys are in the same place  
However, while there may be these relations between these sentences, there is no reason to posit any strict identity of structure for them, and there is no reason for positing something like 61 as the underlying structure of 58 and 59 and allowing some rule to delete in the same place which is then replaced via a rule like Conjoint-Movement by moving one of the NPs from the conjoined subject. This, besides being rather cumbersome, will not capture directly the fact that the with-phrase serves to identify some location which is already known to the speaker and which he assumes to be known to the hearer. (For a fuller discussion of this and related matters see Dreike, 1973: the object of the study is German bei which functions in essentially the same way as with in many of its occurrences, and is cognate

with English by.) We shall find below that the logical symmetry between 58 and 59 and the entailment relation between them and 61 finds parallels in other uses of with.

Returning to Leech's discussion of with (Leech, op. cit.) we find further support for some distinction between the structures of 57 and 58. He notes that the difference between the two sentences is also shown by the existence of a paraphrase for 58 with a relative clause, although a parallel paraphrase for 57 is difficult to find:

62. Your keys are (at the same place) where your wallet is

63a. Your keys are (in the same place) where your wallet is (≠57)

b. Your keys are in the place which is (identical with) your wallet

This suggests that the difference may be captured in terms of the presence of a relative-clause-like structure in 58. Notice that we say "relative-clause-like" structure since this cannot be a full relative clause: relative clauses allow tense and the tense of the lower clause in 58 must always be the same as that of the highest tense predication, that is 64a and 64b are not synonymous:

64a. Your keys are with your old pipe

b. Your keys are (in the place) where your old pipe used to be

To avoid the possibility of different tense markings, we prevent the possibility of a lower tense predication developing. We return to this below.

Support for the presence of a relative clause-like-structure being present underlying 58 comes from ambiguities

which some speakers detect when ..wherever that may be is added to the sentence:

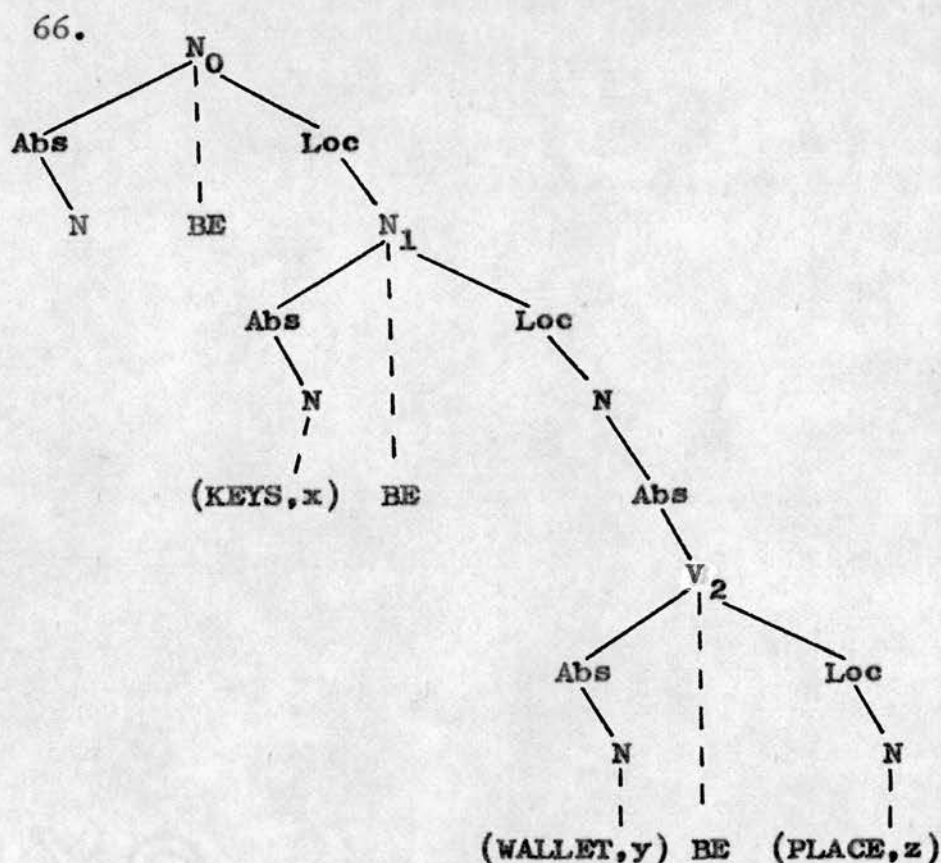
- 65a. Your keys are in your wallet, wherever that may be
- b. Your keys are where your wallet is, wherever that may be
- c. Your keys are with your wallet, wherever that may be

As we would expect if the structure of 65a is the same as 56, there is no ambiguity with respect to the referent of that, it can only refer to wallet. However, there is an ambiguity as to the referent of that in 65b and 65c. On the preferred reading of that for 65b, it refers to the location, i.e. where your wallet is, in other words the referent, antecedent is the head noun of the relative clause, but some speakers will also accept the reading on which it refers to wallet: for 65c the preferences are reversed, so that, on the preferred reading, that is co-referential with wallet and, on the second reading, it is coreferential with some non-occurring element in surface structure. Some speakers seem to avoid the ambiguity by using stressed it when reference to wallet is intended.

How, then, are we to handle these facts about simple and relative location? As already suggested, the structure underlying simple location will be that of 56 and relative location will involve some added locative predication as a relative clause modifying the N governed by Loc. Thus the structure underlying 62 would be the following, where the bare Loc in  $N_1$  conditions the appearance of the tensed predication as the relative clause, and we adopt the



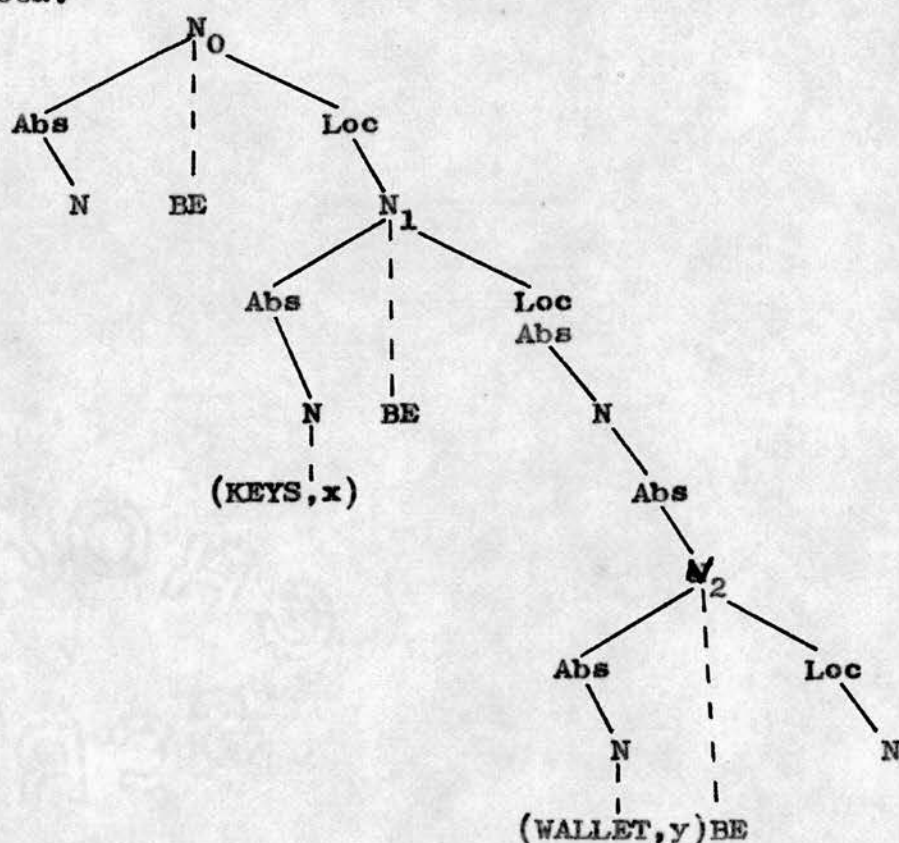
convention used in the preceding chapter of showing that we are dealing with a sub-structure with a tense predication as head element by using V as the head of the structure without spelling the whole structure out.



We assume that the Abs of  $V_2$  is blocked from raising into the Abs of  $N_0$  by the presence of a higher occurrence of Abs which is semantically specified. Loc will raise into Loc of  $N_1$  to become the head of the relative clause structure, although the full details of relative clauses are to be worked out. Abs of  $N_1$  raises into Abs of  $N_0$  to become the "subject" of the whole sentence.  $N_1$  will subsequently subjoin to  $N_0$  to produce 62. The absence of in the place can be accounted for by having the same structure as 66 but not allowing semantic specification of Loc of  $V_2$ . We can extend the

analysis to 58 so that we have a relative-clause-like structure dependent on the N whose governor is Loc of  $N_1$ . The difference here is that this Loc will also be marked as Abs and there will be no tensed sub-structure dependent on this N. Further the Loc of this sub-structure is without any semantic specification obligatorily. Thus the structure will be as given in 66a.

66a.



On the  $N_2$  cycle, Abs will raise into  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$  as will Loc, but this being unspecified there will be no effect on the output. The rest of the derivation is as in 66 with the Abs of  $N_1$  raising into the Abs of  $N_0$  and  $N_1$  subjoining to  $N_0$ .  $N_2$  will not lexicalise, since Abs governing a variable and being "subject" of the predication has no lexical form and Loc has no semantic specification which lexicalise. Thus

we are claiming that with is the lexicalisation of the complex case  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$  and such an analysis allows for the locative origin of the preposition and also its use as a marker of the object in that the complex also contains Abs. Thus we have some initial suggestions for the treatment of pattern iii, and some occurrences of pattern i can be derived from this if there is no verbal tense-bearing element. We say some occurrences of i because there are other occurrences where this pattern corresponds to sentences with a possessive reading, and we turn to these now.

If the suggestion, popular in the literature, that there is a relationship between location and possession is to be accepted, then there should be some relation between the structure 66 and patterns ii and iv. Consider, then, the following:

67. The desk has a light over it

68. The table has a book on it

69. The professor has the students with him

Following Leech (Leech, op. cit.) 67 and 68 will be related to simple location in that the subject is the actual location of some object, while in 69 we have a structure which is related to 70, so 69 is to be related to 71:

70. A light is over the desk

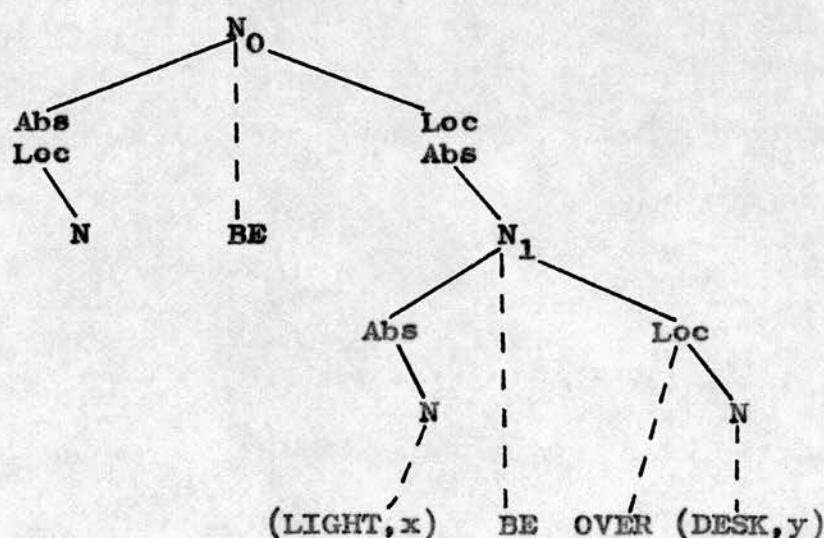
71. The students are with the professor

In both cases, the difference is to be handled in terms of what element is raised into the Abs of the higher aspect predication. Fillmore (Fillmore, 1969) suggests that have is the lexicalisation of a structure which would be more



nearly represented as "BE WITH". However we cannot accept such an interpretation as this would require some blocking device to prevent the structure in 66 from surfacing with have since this will contain BE followed immediately by the preposition with. Instead we shall adopt Fillmore's alternative proposal (Fillmore, 1968), that have is to be inserted "just in case the subject is an NP which is not from the O(bjective) case". (Compare also Lyons, 1968 for a similar suggestion and Anderson, 1971a, 1972 etc). Thus the underlying structure of 67 will be the following (see below). The fact that the Loc of  $N_0$  is marked as Abs will allow the Abs of  $N_1$  to raise into it, and the Loc of  $N_1$  will raise into the <sup>Abs</sup>Loc. This will produce a "subject" of  $N_0$  which is governed by a complex case containing Loc which will condition the lexicalisation of BE as have and the fact that <sup>Loc</sup>Abs occurs will allow for the occurrence of

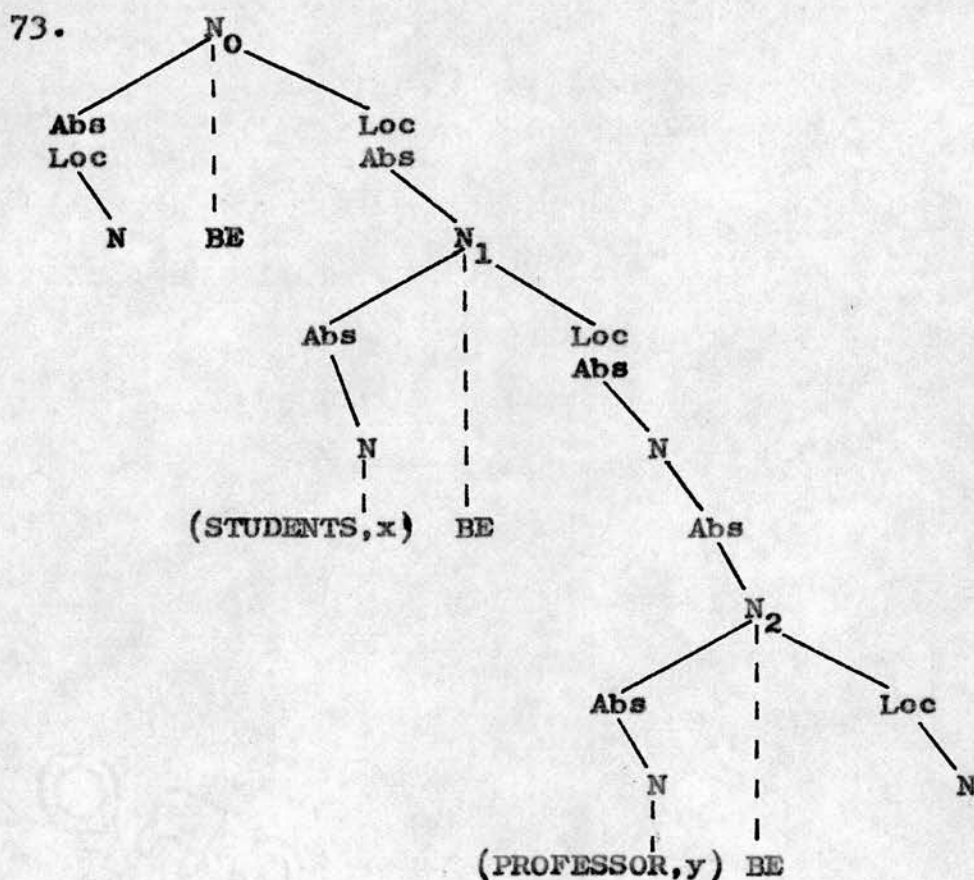
72.



allow for the occurrence of with when there is no tense-bearing verbal element. Finally in terms of this structure we need to add to the rules of Strict Lexicalisation, in that

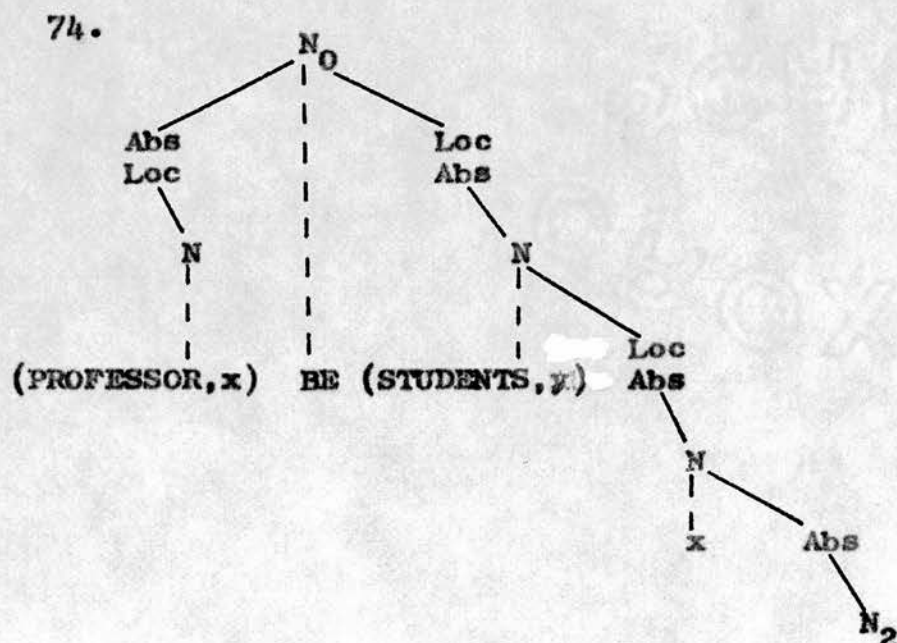
we have a subject in  $N_0$  which is coreferential with a lower non-subject, i.e. the variable  $y$  governed by the Loc of  $N_1$ , where this non-subject is lexicalised as a pronoun. Thus in terms of coreferential items we need a rule which states that a subject will delete (i.e. block the lexicalisation of) a lower subject and will pronominalise a lower non-subject.

Relative location with respect to "possessive" with will be handled in the same way as patterns iii and iv. Thus the structure of 69 will be:



On the  $N_2$  cycle Abs will raise into the  $\text{Loc}$  of  $N_1$ ; on the  $N_1$  cycle  $\text{Loc}$  will raise into the  $\text{Abs}$  of  $N_0$  so that we get professor as final surface subject. Loc also raises into  $\text{Loc}$  on the  $N_2$  cycle. With respect to the derivation of 72

we allowed Abs of  $N_1$  to raise into  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$  of  $N_0$ , and the same would apply in 73. However, it is possible that this is not the most acceptable derivation. An alternative would be, in order to avoid a specified N raising into  $N_1$  which is already specified, to talk here in terms of Subjunction, that is, the presence of the Abs marking the Loc allows subjunction of Abs. This will entail altering the grammar so that each element to which a dependent subjoins is governed by a complex case containing a specification of which elements subjoin. A third alternative would be to accept Anderson's proposal (Anderson, 1971a, 1972, etc.) that predications can only be introduced via an Abs dependent on N. Both these possibilities will lead to modifications in detail of the grammar without doing any harm to its functioning and will lead us from our current concerns. The choice between the two must be made at some other place. Whatever the details of the derivation the resulting structure before Strict Lexicalisation will be





$N_2$  will not be lexicalised since it governs an unspecified Loc and an Abs governing the variable  $x$  which is blocked from lexicalisation. The variable  $x$  governed by  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$  will lexicalise as him, and the governing complex case as with. BE, since its "subject" is governed by a complex case containing Loc, will be lexicalised as have.  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$  will not be lexicalised and this we can attribute to the fact that it contains Abs and is immediately post-verbal: the same applies to all the occurrences of  $\begin{smallmatrix} \text{All} \\ \text{Abs} \end{smallmatrix}$  discussed in the preceding chapter. Note that  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$  will account for the with which occurs if there is no tense-bearing element, the professor with the students with him.

Thus we have an analysis of patterns i-iv which shows the relationships between the relevant forms and is in accord with the proposals for the grammar made in the preceding chapters in essential details. In what follows we shall see to what extent the hypothesis that with lexicalises a complex case of the form  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$  accounts for the other patterns of the use of this preposition.

### 5.1.3. The Notion of "Primary"

One notion which it is useful to introduce at this point is that of the "primary". As we noted above, the with-phrase in predications of relative location defines the location at which the object may be found, i.e. as the basic element of the sentence with regard to which some other element is treated. In fact, this notion of primary is not restricted to relative location as we have discussed it above: we shall find below that it has a bearing also on

other structures. That it is not restricted to with-sentences can be seen if we consider sentences containing the same. As we noted above 58 and 59 are logically symmetric:

58. Your keys are with your wallet

59. Your wallet is with your keys

and they differ as to which object's location the speaker assumes to be known to the hearer or relevant to identifying the location of the subject. Moreover, they both entail 61:

61. Your wallet and your keys are in the same place

In fact, two other sentences paralleling 58 and 59 also entail 61:

75a. Your wallet is in the same place as your keys

b. Your keys are in the same place as your wallet

which also differ in terms of the primary, i.e. the defining element. How such relations are to be captured is uncertain at the moment and lies outside the scope of the main topic of this study, but such paraphrases do suggest that with may itself be connected with the notion of comparison (note compare with/to and we shall see below that in some circumstances to also introduces a primary), that is, the location of one object is compared with the location of the primary and asserted to be the same. These relations also suggest an alternative hypothesis to that proposed above for with, although one which does not appear to generalise in quite the same way to its other uses, namely that it is the lexicalisation of the structure which could also surface as in the same place as. We shall not explore this here, but

its relevance will become clear below.

We have suggested, then, that, in sentences of the patterns i-iv, with is the lexicalisation of <sup>Loc</sup>Abs and marks relative location. If we try to extend this hypothesis, we find firstly that it is not fully consistent with the data and secondly that the framework adopted of analysing sentence patterns is not itself revealing. In fact, we find semantic relations cross-cutting the syntactic patterns established. Thus as examples of pattern v (NP be Adj with NP) we find the following sentences:

76a. The garden is swarming with bees

b. The cart is loaded with hay

77a. John is in agreement with Bill

b. John is in sympathy with Bill

78a. John is pleased with the concert

b. John is angry with Bill

and examples of pattern vi (NP V with NP):

79a. John agrees with Bill

b. John sympathises with Bill

80a. This train connects with the Birmingham train at Carstairs

b. Wine mixes with water

The point is that most of these sentences contain verbal elements which will also occur in pattern vii (NP V NP with NP), these latter often seeming to function as causative counter-parts, so that semantic parallels overlap the syntactic patterns:

81a. John loaded the cart with hay



- b. Bill pleased John with a good book
- c. This road connects St. Andrews with civilisation
- d. John mixed the water with the wine

Notice also that, while exhibiting different patterns, 77a and 77b are paraphrases of 79a and 79b. In what follows we shall first review what has been said in the literature about these sentences containing with and show how they may be related in the light of certain facts which have not been taken into consideration, and then make some proposals for their treatment which will help to further the grammar in the light of the analyses made in the preceding chapter.

## 5.2. The Data

Of the sentences given above, the most discussed type is that exemplified by 81a. By "discussed" here we mean taken as the object of study in its own right as opposed to sentences like 79a, for example, containing the verb agree which are more generally discussed in the literature within the context of the debate about phrasal and sentential conjunction. Bottom on the ranking fall what we may call verbs of emotion or relation toward someone or thing, e.g. surprised, angry, sympathise.

### 5.2.1. On "Loading Hay" and Related Activities

Within this category fall several types of verb. Generally, discussion is restricted to the causative and stative forms of load, plant, smear, jam, swarm etc but for convenience we set up the following sub-categories:

- (a) causative: stock, furnish, provide, sprinkle,  
wrap etc.

- (b) verbs of process lacking an Agent: echo, run,  
flow, drip etc.
- 82a. History echoes with the names of well-intentioned  
fools
  - b. The streets will run with blood
- (c) negative correlates of (a): empty, strip, rob,  
steal, unpack etc.
- (d) verbs of movement: wave, throw, lash out, nod etc.
- (e) a certain class of verbs which we shall discuss  
further below, the important point being that they  
have a corresponding form in put/give: water,  
butter, glaze, oil, ink (in), seed etc.

In what follows we shall concern ourselves primarily with sentences of the causative pattern, as examples of which we give:

- 83a. John loaded the hay onto the cart
  - b. John loaded the cart with the hay
- 84a. John smeared the paint on the wall
  - b. John smeared the wall with the paint
- 85a. John wrapped gaily coloured paper around the gift
  - b. John wrapped the gift <sup>with</sup><sub>in</sub> gaily coloured paper

Following Fraser (Fraser, 1971), we shall refer to the (a) examples as "locative" sentences in that the prepositional phrase denotes the ultimate location or goal of the object that moves, and the corresponding (b) sentences we shall call "device" sentences. Although, as the evidence presented below suggests, the prepositional phrase does not necessarily denote a device, ~~but~~ we retain the term for convenience. The arguments for and against an instrumental analysis of

the with-phrase are given in Partee (Partee, 1965), Fillmore (Fillmore, 1968) and Vestergaard (Vestergaard, 1973) (but see also Chomsky, 1972, S.R. Anderson, 1971, J. Anderson, 1975a, 1975b and 1976).

#### 5.2.1.1. Arguments for the Instrumental analysis

Fillmore (Fillmore, op. cit.) claims that notionally in sentence 83b the hay is instrumental in performing the action and further that this view is supported by the paraphrase in use (see Chapter 2 for the use-with test for instrumentals):

86. John used the hay to load the cart with  
Some speakers find this sentence at best marginal and it is certainly debatable whether this sentence is a true paraphrase of 83b. Syntactically it is different from a corresponding sentence with a "true" instrumental: thus in a sentence like the following:

87. John used the knife to slice the salami with  
with is optional for some speakers while for others it makes the sentence unacceptable, but in the case of 86 with is always obligatory, a fact which makes it look here more like the obligatory preposition in sentences of the form:

88. John used the ladder to lean the wall against  
that is, the preposition must be retained or semantic information will be lost. Thus there is little support for the instrumental analysis on notional and syntactic grounds, and the same also applies for any argument from morphology. Thus the fact that, according to Fillmore (Fillmore, 1968), Instruments are typically expressed by with does not show



anything conclusive about the case relation under discussion. Such an argument would have force only if Fillmore could show that with is not just "typically" the realisation of Instrument but that all occurrences of with are realisations of this case. Parallels from other languages have the same difficulty: Hungarian and Russian use the Instrumental case in sentences which behave in a similar fashion to the spray-paint examples: Russian,

89a. Ivan gruzil drova na barzu

"Ivan" "Load"+past.impf. "firewood"+neut.pl.  
"onto" "barge"+acc.sing

'Ivan loaded the firewood onto the barge'

b. Ivan gruzil barzu drovami

"Ivan" "load"+past.impf. "barge"+acc.sing.  
"firewood"+inst.pl.

'Ivan loaded the barge with firewood'

Compare also Latin, which uses the ablative case form for instruments:

90a. Caesar circumdedit murum urbi

"Caesar" "around"+"give"+"past" "wall"+acc.sing.  
"city"+abl.sing.

'Caesar put/built a wall around the city'

90b. Caesar circumdedit urbem muro

"Caesar" "around"+"give"+"past" "city"+acc.sing.  
"wall"+abl.sing.

'Caesar surrounded the city with a wall'

In both languages, the case which marks the Instrumental in the (b) examples can also be used to mark other cases, as witness 90a where Latin ablative also marks a Locative or Goal relation.

#### 5.2.1.2. Arguments against the Instrumental Analysis

If the arguments in favour of the Instrumental analysis are not very compelling, those against it serve to resolve the issue in a slightly more forceful fashion.

(i) A genuine Instrument can occur in which case the sentence is acceptable although the two with-phrases may sound odd:

91. John loaded the cart with the hay with a pitchfork  
If both with-phrases mark an Instrument, then we have a case of Fillmore's one-instance-per-clause constraint being broken. That with a pitchfork is clearly an Instrumental is shown by the fact that the use-with test selects this rather than with the hay:

92a. John used the pitchfork to load the cart with hay

b. \*John used the hay to load the cart with a pitchfork

(ii) Fillmore has a second constraint to the effect that different cases cannot be conjoined. Thus in the following, if we have two Instruments, then the grammar makes the wrong prediction about grammaticality in terms of this constraint, while, if we are dealing with different cases which have been conjoined, then the constraint is upheld:

93. \*John loaded the cart with the hay and a pitchfork

(iii) Consider the following sentences:

94a. John packed his clothes into the suitcase

b. John packed his suitcase with newspapers

95a. John unpacked his clothes (out of his suitcase)

b. John unpacked his suitcase (of his clothes)

96a. John emptied his clothes out of his suitcase

b. John emptied his suitcase of his clothes

Under the Instrument analysis newspapers in 94b is an Instrument and marked by with, but in this case we must treat clothes in 95 and 96 as an Instrument if we are to preserve a Fillmorean "conceptual" analysis and have some rule which says that it must be marked by of since these sentences describe the reverse of the action in 94. Alternatively we can say that there is no relationship between 94 and 95 which can be captured in the underlying structure and assign the prepositional phrases to some other case, which itself raises the problem of what case this might be. Fraser, (Fraser, 1971) shows that this pattern with of marking the object which is removed as opposed to with marking the object added is common to many verbs. Any analysis which proposes two different cases fails to capture the point that in both examples we have an object that moves. Any analysis which poses exactly the same case needs to show why that case has two different realisations. One proposal which we cannot consider here in detail would be that what is common to both is a predication of movement, where the object moved is governed by Abs, in the case of with this Abs raises into a higher Loc, and in the case of of it probably raises into Abl, which typically is associated with negation i.e. not being in a state (see Anderson, 1971a).

There are, at least, two pieces of evidence that support the view that with marks the object that moves in these sentences, a view which is in accord with our treatment



of the appearance of the preposition in patterns i-iv.

Notice firstly that sentences 83-5 imply the following:

97a. The hay is loaded on the cart

b. The cart is loaded with the hay

98a. The paint is smeared on the wall

b. The wall is smeared with the paint

99a. Gaily coloured paper is wrapped around the gift

b. The gift is wrapped <sup>with</sup> in gaily coloured paper

and further they all imply sentences without any form of the original verb:

100a. The hay is on the cart

b. The cart has hay on it

which again supports the relationship with patterns i-iv, in that the device sentences may be derived from a predication of location embedded in a causative structure, i.e. a verbless form of 100b is the cart with hay on it, but we return to this below (5.3.). Under the Instrumental analysis, these implications are completely arbitrary, for it is not the case that sentences with "true" Instrumentals imply a locative sentence:

101a. John broke the glass with his voice

b. \*The glass has John's voice in it

102a. John killed Bill with a .45 caliber gun

b. \*Bill has a .45 caliber gun in him

A second source of support comes from sentences which are frequently compared to the load-hay type, namely sentences involving verbs like give, send, hand, throw etc., which involve transference of an object from one person to

another person/object. These sentences have a locative form:

103. John gave the book to Bill  
which Fillmore (Fillmore, 1971a) analyses in terms of an Object and Goal, book and Bill respectively (compare also Jackendoff, 1972). However, there is a problem with these verbs which has produced much discussion in the literature (see Lee, 1969, Nilsen, 1973, Green, 1974 among others in the more recent literature and Anderson, 1976 for a discussion of the inadequacy of the standard approach in terms of Indirect Object or Dative Movement), namely that while the NP and prepositional phrase can be permuted, as with load-hay verbs, a device sentence is not produced, i.e. the original direct object is not marked by with:

104. John gave Bill the book  
(The question could, of course, be put in the reverse form: why do sentences with load, spray etc. require the original object to be marked by with?) Thus there seems to be some parallel between the two cases, in that both involve some notion of movement of an object and both allow permutation of the NP and PP following the verb. However, there are two other differences which serve to distinguish give and load. Firstly, we noted above that with load the locative and device sentences have different implications, but in the case of give both forms, i.e. 103 and 104, imply that Bill had the book afterwards. The second difference, which apparently has not been noted before and which may be causally involved in the situation as we shall show (5.3.



below) is to do with the pairing of the verbal form with a morphologically identical noun. One of the sub-categories of the load-hay verbs was a series of verbs, butter, oil etc. which have corresponding forms with the related noun as the object of the verb give or put:

105a. John put some butter on the bread

b. John buttered the bread

106a. John put some glass in the window

b. John glazed the window

107a. John gave some water to the plants

b. John watered the plants

The difference between the use of put or give seems to lie in the fact that with the former the recipient is not necessarily animate and does not benefit from the substance received, while, for example, plants benefit from being given water. The important point is that in the (a) forms we have an object which moves and a Goal and in the (b) forms we have no preposition. What seems to be happening can be described in terms of something like the rule of Dative Movement which makes the original Indirect Object the Direct Object, i.e. there is no preposition (although we shall not adopt this analysis) and a subsequent rule of Incorporation which incorporates the original direct object into the verb (for the notion of Incorporation see Gruber, 1965, Nilsen, 1973 and compare also the rule of Subjunction in Anderson, 1971b where give help and help are said to differ in that the latter has undergone Subjunction of Nom, i.e. Abs to the verb to form the simple verbal element).



The next question is to which category of verbs, the give or load category, do these incorporated verbs belong? In terms of their implications they belong with load:

108a. The butter is on the bread

b. The bread has some butter on it

although this may not be very strong support. However, under certain circumstances we do find a device sentence with these verbs:

109a. ?John buttered the bread with butter

However, if we wish to further specify what type of butter, then we can only do this via a with-phrase:

109b. John buttered the bread with some new Danish butter he'd just bought

c. John buttered the bread with marge

110. John watered the plants with some water containing a new plant food

In fact, the sub-categorisation which we made above was something of a device, since it seems that this situation is common to all load-hay type verbs, even the stative ones: that is, as far as we can see, all these verbs of the load-hay type have some identical noun associated with them: load, smear, swarm, echo, drip, present etc. and a paraphrase involving give, put or be in the case of non-causative verbs:

111. John put a load of hay on the cart

112. John put a stock of fish into the pool

113. John put a smear of paint on the wall

114. A swarm of bees is in the garden

Thus it may be the presence of what we may call for

convenience a quantifier construction (see Jackendoff, 1972) which is causally involved in the occurrence of with in the device sentences, where with marks the original "quantified" noun and the "quantifier" is subjoined to the predicate, as opposed to its absence in the case of Dative Movement verbs. In either case, there is evidence supporting the Object interpretation of the with-phrase against the Instrumental analysis, and this may allow us to relate such occurrences to expressions of location and possession as discussed above. However, there are other factors to be taken into account in a full analysis of the occurrence of with in such sentences.

#### 5.2.1.3. Holistic vs. Partitive

Fillmore (Fillmore, 1968: 48) noted that the locative and device sentences have a slight semantic difference.

Thus referring back to 83a and 83b:

83a. John loaded the hay onto the cart

b. John loaded the cart with the hay

besides implying

97a. The hay is loaded on the cart

b. The cart is loaded with hay

100a. The hay is on the cart

b. The cart has hay on it

they differ as to their implications as to the fullness of the cart: thus 83b and 97b both imply that the cart is full while the corresponding (a) examples merely assert the location of the hay and say nothing about the state of the cart, as one would expect given that the hay is subject in

97a and has something asserted of it while the cart fills neither of these conditions. Notice that 100b does not imply the fullness of the cart, which may be related to the absence of load. Fillmore suggests that this semantic difference is a matter of "focussing". Thus the "fullness"-interpretation will be assigned if the Locative cart is focussed in object position, while the other interpretation is dependent on the occurrence of the hay in focussed, i.e. object position. Chomsky (Chomsky, 1972) and following him S.R. Anderson (Anderson S.R., 1971) has argued that this is not a matter of surface structure as Fillmore suggests but it is to be reflected at the level of deep structure. As evidence for this position Chomsky adduces the following sentences:

115a. Bees are certain to be swarming in the garden

b. Bees were believed to be swarming in the garden

116a. It is in the garden that bees are swarming

b. It is bees that are swarming in the garden

Chomsky notes that although these sentences differ in surface structure, they share the common non-full interpretation, i.e. it is not the case that the garden is full of bees and Chomsky claims that this is to be associated with the occurrence of bees as deep subject.

S.R. Anderson (Anderson S.R., op. cit.) extends the analysis and introduces the terms "holistic" and "partitive" to cover the meanings of the device and locative sentences respectively. He points out that the relevant generalisation for the distinction can be stated in terms of deep



subject for non-causative verbs and deep object for causatives. There is another analysis which recognises that the difference can be stated simply in terms of subjects, i.e. if the Locative is subject, then assign a holistic interpretation, and then the causative analysis in terms of Predicate Raising of verbs like load will make the subject of the embedded sentence the object of the main verb, thus providing an argument for Lexical Decomposition, in that we have one simple statement referring just to subjects and not one referring to subjects and objects. For a fuller discussion of the inadequacies of this as an argument for a level of deep structure embodying the notions of deep subjects and objects see Anderson (Anderson, 1975a, 1975b and 1976). Anderson claims that that data can just as easily be handled in terms of the case frame in which load occurs: thus the case frame for the partitive interpretation will be

V(load) Abs (hay) Loc (cart) Erg (John)

while that for the holistic interpretation will be

V(load) Abs (hay) <sup>Loc</sup><sub>Abs</sub> (cart) Erg (John)

where <sup>Loc</sup><sub>Abs</sub> displaces Abs from object position and displaced

Abs is marked by with. We shall argue below that a

combination of both these proposals, i.e. case frame and

Lexical Decomposition, accounts for the device sentences and relates them to other phenomena.

#### 5.2.1.4. Accomplishment vs. Activity

There are several pieces of evidence which support the relation posited between activity and partitive readings

on one hand and accomplishment verbs and the holistic reading on the other. Consider, then the tests given by Vendler (Vendler, 1967 see also 3.2.4.)

(i) Activity verbs allow for an hour while accomplishment verbs allow in an hour, i.e. durative vs. non-durative temporals.

117a. John loaded hay onto the cart for an hour

b. ?John loaded hay onto the cart in an hour

118a. ?John loaded the cart with hay for an hour

b. John loaded the cart with hay in an hour

The test is not perfect in that the marginal acceptability of 117b and 118a only weakly support the activity sense and the accomplishment sense respectively. Notice that there is, in fact, another variable to be controlled here: thus we use the indefinite hay in the above examples, but if we use a quantifier construction we obtain only an accomplishment sense and either reading with the definite article:

119a. \*John loaded seven bales of hay onto the cart  
for an hour

b. John loaded seven bales of hay onto the cart  
in an hour

120a. John loaded the hay onto the cart for an hour

b. John loaded the hay onto the cart in an hour

121a. \*John loaded the cart with seven bales of hay  
for an hour

b. John loaded the cart with seven bales of hay in  
an hour

122a. ?John loaded the cart with the hay for an hour

b. John loaded the cart with the hay in an hour

These sentences suggest that, although the opposition may



not be absolute, the device sentence selects the accomplishment reading more readily than does the locative.

(ii) The second test relates to the differences with the verb stop and concerns what exactly is negated by this verb. Thus if John stops swimming in the lake, an activity, then John did swim in the lake, the swimming comes to an end or is negated, but if John swims across the lake, an accomplishment, then John did not swim across the lake, it is the movement across which is negated. Consider then the following:

123. John stopped loading hay onto the cart

124. John stopped loading the cart with hay

123 asserts that John ceased putting hay onto the cart and does not imply that John did not put any hay onto the cart. It implies, moreover, that hay has been loaded onto the cart. 124, on the other hand, asserts that John did not load the cart, although there may be some hay on it. Thus 123 and 124 both imply the presence of hay on the cart, but 124 does not imply that the cart is loaded with hay. Thus the negations differ, in 123 the action is negated and in 124 it is the result which is negated. Again there is a correlation between accomplishment and device sentences and activity and locatives.

(iii) Accomplishment verbs can be the complement of the verb finish

125. John finished loading hay onto the cart

126. John finished loading the cart with hay

This test is not conclusive and any difference between 125



and 126 seems not to be related to syntactic acceptability but to our knowledge of the world. The situation described in 126 is more likely to be seen as one in which John's finishing is due to the completeness of his action, rather than due to its being "knocking-off" time for tea or the end of the day, while the reverse seems to be true of 125.

Thus Vendler's tests do not seem to be in any way conclusive, although they do give partial support for the correlation proposed. However, there is further support to be found in our discussion of phrasal verbs and of do with and do to verbs (see Chapter 3 above). We adopted the suggestion of Fillmore, (Fillmore, 1971a) that for verbs of activity like swim we have a basic Agent-action structure, and the related accomplishment verb is derived from a manner expression of the form "by swimming", that is swim across the lake would be derived by subjunction of the predicate of the manner expression to the predicate of the movement predication in which it occurs. We also equated this activity predication with the notion of Force, so that all accomplishment verbs will have an underlying activity predication. This will fit in with other observations that we made to the effect that only accomplishment verbs allow Forces. Further, insofar as we linked Forces and CAUSE predications and Forces and accomplishment predications, then it seems likely that we can distinguish between activity and accomplishment verbs in terms of the absence or presence respectively of a CAUSE predication. One further point which needs to be made explicit now is that activity verbs also seem to

link with do with verbs and correspondingly accomplishment verbs with do to verbs. With this as a basis, let us now consider locative and device sentences.

Fraser (Fraser, 1971) points to certain features of these sentences which admit of the activity-accomplishment distinction, without his making this fact explicit in his discussion. He notes firstly that the adverbials which these sentences allow differ, although what he calls adverbials seem better classed with the particles which appear in phrasal verb constructions, in that they denote the resulting state. Note that phrasal verbs in general are accomplishment verbs, as we noted above (3.2.4). Thus:

127a. John planted the garden full of trees

b. \*John planted full of trees in the garden

128a. They loaded the boards one by one onto the cart

b. \*They loaded the cart with boards one by one

127 can easily be handled in terms of a lower predication, that is, corresponding to 127a there is a sentence The garden is full of trees which can be embedded in a causative predication, but for 127b there is no associated \*Full of trees is in the garden. In 128, the manner adverbial shows that we are dealing with two different verbal pieces: thus the action of loading boards can be carried out by operating on one board in turn, while loading carts is not usually viewed in this manner: alternatively we can say that the difference lies in what element forms the direct object of the verb, the location or the object moved.

Similarly, particles like up, forming phrasal verbs, are limited to what Fraser calls device sentences, i.e. these which we have associated with the accomplishment sense of the verb and containing an activity predication and a movement predication. Under such an analysis, only the accomplishment verb has a structure which will allow a particle to appear, i.e. in the resulting state of the movement predication.

129a. He loaded up the cart with hay

b. \*He loaded up the hay onto the cart

130a. He splattered up the floor with water

b. \*He splattered up water onto the floor

Notice that the (b) examples give a more acceptable reading if the up form is given its "normal" semantic content of movement to a higher place. Similar support for the accomplishment sense with device sentences is provided by the prefix over-, which, again, is limited to device sentences:

131a. John oversupplied them with rifles

b. ??John oversupplied rifles to them

132a. John overloaded the cart with hay

b. John overloaded hay onto the cart

Thus, for someone to be overloaded or oversupplied, then it must be the case that at some point the action of loading or supplying reached a natural end such that someone or thing was loaded or supplied to sufficiency.

Further support comes from the do-with and do-to tests, that is, we suggested that the object of activity verbs is



marked by with in certain circumstances and that of an accomplishment verbs by to. Thus consider the following:

133a. What did John do with the hay?

He loaded it onto the cart

133b. What did John do to the hay?

i. ??He loaded it onto the cart

ii. He burnt it

where with marks the object which moves, while to marks the object which the speaker presupposes has been damaged.

Thus in the locative sentence it is with which is the more normal. The judgements with respect to device sentences are not too clear, but do point towards the distinction being made:

134a. What did you do to the cart?

I loaded it with hay

b. What did you do with the cart?

i. ?I loaded it with hay

ii. I lent it to Fred, who drove it off

In 134a there is a presupposition that that cart has been affected or damaged in some way which is lacking in 134b. The test also shows the relation between the verb load and put a load, as suggested above, in that the latter has the same paradigm as 134:

135. What did you do <sup>with</sup><sub>\*to</sub> the hay?

I put a load of it on the cart

Notice that the do to question can be answered with a locative sentence and the do with question with a device sentence, although these seem to be more marginal.

Vestergaard (Vestergaard, 1973) makes essentially the same point about locative and device sentences, namely that the latter take do to verbs, when he says of the object of 136:

136. John packed the trunk with clothes  
that it is both Locative and Affected (note that he is working within a modified Fillmorean framework, containing the new case Affected and allowing doubling of cases). He also suggests that the feature Affected will account for the difference between the following:

137. The thieves stole the money from the old lady

138. The thieves robbed the old lady of her money

These two sentences behave similarly to verbs like strip and unpack where the object that moves is marked by of in the device sentence (see 138). For Vestergaard, the case Affected will distinguish between the illegal transition of money 137, as opposed to the detrimental influence of this on the old lady, which is captured by the presence of Affected in 138.

Before turning to other uses of with, there is a problem with the notion of Incorporation, which we have identified with our rule of Subjunction. Although we have not yet looked at this rule in its application to the relation between the verb load and put a load in any detail, there do seem to be constraints on its use. Three things seem to unite the members of this class of structures: firstly, there is the presence of the verb put or give dependent on whether the recipient benefits from the object moved,

secondly the object moved is common and thirdly with is used to mark the object. However, there are other verbs which show some relation with a corresponding noun phrase or prepositional phrase but do not show these features. The following is only a tentative list of such verbs, and we shall not pursue the problem much further, but merely suggest some possible approaches as the topic is too large to discuss here.

(i) verbs of putting some thing in a place, where the Goal is incorporated or subjoined to the predicate: bottle, can, case, jail etc.

(ii) verbs where the related object denotes an instrument used to attach two things together (see McCawley, 1971a, Green, 1972): paste, glue, rivet, nail, tape, button, etc.

(iii) a class of verbs denoting actions which are defined by the object used: saw, chisel, shovel, bulldoze, fiddle (play a violin), hammer, rope, etc.

For further examples and an attempt to classify them see Nilsen (Nilsen, 1973) and Liefcrink (Liefcrink, 1974). Two points should be made: firstly one factor which unites (ii) and (iii) is the occurrence of the preposition with marking the incorporated object, whether it be the object which moves or the Instrument and secondly, the treatment in terms of Subjunction seems to be applicable to all categories, that is the verb bottle has an underlying structure containing a causative predication and an embedded predication of movement into a bottle.



## 5.2.2. Reciprocal and Comitative

If verbs of the load-hay type are related to the with patterns i-iv in that with marks an object, verbs of reciprocity and association are related to such patterns in terms of potential logical symmetry. That is, if there is a situation corresponding to either of 139 and 140.

139. John came with Bill

140. John collided with Bill

then it may be the case, although not necessarily so, that the corresponding situations occurred:

141. Bill came with John

142. Bill collided with John

To complete the parallel with sentences 58, 59 and 61 we also find

143. John and Bill came together

144. John and Bill collided together/into each other/  
with each other

58. Your keys are with your wallet

59. Your wallet is with your keys

61. Your wallet and your keys are in the same place/  
together

Most of the discussion of with in the literature centres around the problems related to phrasal and sentential conjunction and the arguments for and against such a distinction. We do not propose to survey all these discussions as this would lead us away from our main concern in this chapter into the problems of the treatment of each other (Dougherty, 1970, 1971, 1974, Jackendoff, 1972, Fiengo and Lasnik, 1973, Anderson, 1974), the relation between conjoined and plural

noun phrases (Dougherty, 1967 and for a fuller review of the points relating to this see Anderson, op. cit.) and the major issue itself of the phrasal vs. sentential conjunction distinction (for a review of the literature see Stockwell et al., 1973, Dougherty, 1970, 1971, Hudson, 1970 Anderson, op. cit.). Instead we shall simply consider these proposals for the comitative use of with and its use in reciprocal or symmetric predications like those with agree, collide etc., with a view to collecting and presenting the more essential facts concerning this preposition (for the comitative use of with in a Fillmorean case grammar see Walmsley, 1971 and in reply Buckingham, 1973).

Firstly we need to delimit the class of verbs and adjectives with which we are dealing in this section. The class of adjectives with which we are concerned are assigned the property of being symmetric, although, as we shall see, this is not so clear-cut as it seems and Stockwell et al. (Stockwell et al., op. cit.) differ from the majority view here. The class includes both adjectives and nouns:

(a) verbs: meet, collide, embrace, reason, confer, bear, match, compare etc.

(b) adjectives and prepositional phrases: be in collision, be friends, have in common, be in love

It is usual to assimilate to these verbs symmetric predicates like

(c) be (a)like, resemble, be similar etc.

However, for a full analysis of this category of verbal elements with the preposition with, it is necessary to take

into account the converse of such verbal expressions:

(d) verbs: separate, divorce, dissociate, differ, distinguish, etc.

(e) adjectives: be separate, be different, be far, etc.

In his discussion of such predicates, Anderson (Anderson, 1973a) also includes the concrete expressions near to, close to, hard by, far from, distant from, apart from etc.

To these categories we must also add a second major group of verbs, which, unlike those just mentioned, do not normally require with, i.e. are not inherently symmetric, but do allow a Comitative:

(f) leave, go, come, kill, etc.

Dougherty gives three reasons why such verbs should be kept distinct (Dougherty, 1971): firstly only the non-symmetric verbs allow both of

145a. Both of the men killed

b. ?Both of the men collided

c. ?Both of the men met

Dougherty claims that 145b and 145c are unacceptable, but most speakers do not reject them completely. Secondly, symmetric predicates do not allow without as the negation of the comitative relation:

146a. John ~~killed~~ Bill without Fred

b. \*John met without Bill

c. \*John collided without Bill

That is, 146a is the negation of 148a just as the corresponding sentence 147 with verbal negation is, but the same does not hold of 146b and 148b:



147. John did not kill Bill with Fred

148a. John killed Bill with Fred

b. John met Bill

(Note that here -out functions as the negating element, which supports Anderson's hypothesis of a relation between negation and Abl, since elsewhere out realises Abl (Anderson, 1971a)). Thirdly symmetric verbs do not allow along with as a variant of the comitative expression. Both Walmsley (Walmsley, op. cit.) and Nilsen (Nilsen, 1973) talk of along with as the "full" form of the English comitative marker, the former using it as a test for the Comitative case. Thus compare:

149. John killed Bill along with Fred

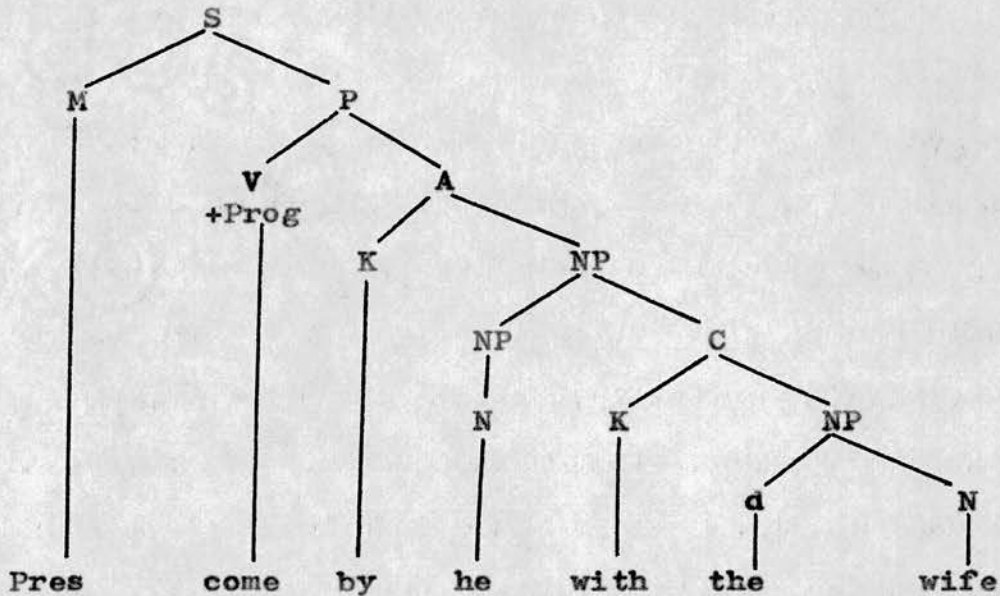
150a. \*John met along with Bill

b. \*John collided along with Bill

In 150b and 150c the meeting and colliding must have been with some other person not mentioned, and in both cases, to be acceptable, Bill must be read as a "full" or true Comitative in that he also met or collided with that person.

There is, in fact, a fourth means of distinguishing between the with-phrase occurring with <sup>non-</sup>symmetric verbs and that with symmetric verbs which is implicit in Fillmore's brief discussion of the Comitative (Fillmore, 1968). There Fillmore treats this case as the only one which is necessarily dependent on a Noun phrase: thus he gives as the structure of He is coming with his wife the structure shown as 151:

151.



He also assumes rules which ensure that the selectional constraints on the noun phrase dominated by C are the same as those of the noun phrase under A, and presumably, in the same way, he will account for the fact that in such sentences we are dealing with two noun phrases, both of which denote Agents. However, this is not true of the symmetric predicates. Thus, while in

152. John came with his wife

we have two Agents sharing the same selectional constraints with respect to the verb, this is not necessarily the case in the following:

153a. John agreed with Bill

b. John collided with the lamp-post

In both sentences it is difficult to conceive of the entity referred to by the with-phrase as denoting an Agent.

Further, in 153b we also have a difference in terms of the animacy of the two nouns involved. Thus, again, we have a

means of distinguishing between symmetric and "comitative" verbs.

There is one further general point which should be made about the above verbs and the categories set up. In our discussion of load-hay type verbs, we included the reverse of the verbs and mentioned verbs like empty: in this discussion we noted that with marks the object which moves to or is located at a place and of is the preposition marking the object removed. This is in accord with the Localist hypothesis, in that with is historically a locative marker, while of is an Ablative or movement from marker. With symmetric verbs we find a parallel situation: alternating with with, we also find to after some verbs, although in these cases it is not clear whether the two sentences are strictly synonymous:

154. John compared the 19th century sonnet <sup>to</sup> of Shakespeare's <sup>with</sup> one

(to seems to involve a less disinterested comparison: consider Shakespeare's Shall I compare thee to/?with a summer's day?). As a paraphrase of 153b we find a sentence with into a marker of the Allative or Goal:

155. John bumped into a lamp-post

Thus if with contrasts with of in load-hay sentences, i.e. Loc vs. Abl, then with symmetric predicates into contrasts with from in symmetric sentences:

- 156a. John distinguished the find of coins from those found the previous day on the basis of their age

- b. John differed from his predecessors in being more liberal

We shall consider the implications of the alternation between



with and of and with and from below. In what follows we shall try to identify some of the main issues in the discussion of phrasal conjunction and add some facts which have not been taken fully into account before, with a view to clarifying the situation with regards to what we shall call the comitative use of with.

#### 5.2.2.1. With from NP and NP

Lakoff and Peters (Lakoff and Peters, 1969) suggest that there is a rule of Conjunct Movement which operates on the structure underlying 157a to produce 157b:

157a. John and Bill agreed

b. John agreed with Bill

Ordered before this rule, there is a rule of Preposition Adjunction which is responsible for deleting and and substituting with, such that the presence of with is the trigger for Conjunct Movement. The operation of Preposition Adjunction is conditioned by the feature +special on the verb; symmetric predicates like similar and distinct are marked as +special and +special respectively, where +positive and -positive respectively, where +positive selects to and -positive selects from. Opposed to this position are Gleitman (Gleitman, 1969), Dougherty (Dougherty, 1970, 1971) and Stockwell et al. (Stockwell et al., 1973) who argue for the transformational analysis of such sentences from conjoined sentences. We cannot evaluate all the arguments here, we shall concentrate on those which crucially involve with.

Two points which are of major importance for our discussion are Lakoff and Peters' arguments from selectional

restrictions and their basic assumption that 157a and 157b are synonymous. The basic problem with both questions lies in the restricted set of data which Lakoff and Peters deal with. Thus they claim (Lakoff and Peters, op. cit.: 125) that "the selectional restrictions between the main verb and the noun phrase that appears as superficial subject are identical to the selectional restrictions on the object of the prepositions (i.e. with, to, from)". This, they claim, is an automatic consequence of their analysis and therefore supports it, but we queried this point above in our discussion of Fillmore's proposals, in that one of the means of distinguishing between comitatives and symmetricals was in terms of identity or not of selectional restrictions. We can now turn to a more detailed analysis. Consider the following examples:

158a. \*The steamer and the pier collided

b. The steamer collided with the pier

159a. \*John and the lamp-post embraced

b. John embraced the lamp-post

160a. \*John and Bill's suggestion agreed

b. John agreed with Bill's suggestion

161a. \*Rich food and John's stomach don't agree

b. Rich food does not agree with John's stomach

c. \*John's stomach does not agree with rich food

In fact, we obtain unacceptable, or at least odd, sentences in all cases if we reverse the order of the noun phrases as in 161c. Thus firstly, Lakoff and Peters' claim is patently incorrect with regard to selectional restrictions,



unless we acknowledge that we are dealing here with different verbs which just happen to have the same surface form, which save their claim but at the expense of creating another context in which with occurs.

The unacceptability of the (a) examples given above is also relevant to the second point, namely the assumed synonymy of 157a, 157b and 162:

162. Bill agreed with John

It seems that Lakoff and Peters place too much emphasis on their claim that 163 and 164 entail each other:

163. John drank a glass of beer with Bill

164. Bill drank a glass of beer with John

This claimed entailment does not generalise to all verbs, and it is doubtful whether it is true in all circumstances of 163 and 164. Thus if Bill is at the bar and John walks in, then 163 is the more likely, while 164 is more likely if it is John who is already at the bar. Another interpretation would involve who actually brought the drinks. Thus 165

165. Have a drink with me

is an invitation to consume a drink which the speaker will purchase, but 166

166. I'll have a drink with you

is either a statement that the speaker will buy his own drink or a non-normal request for the addressee to buy the speaker a drink. Compare:

167. Tight-fisted John will drink with anyone, but  
no-one drinks with him



The difference seems to be best described in terms of the notion we introduced above of "primary" (5.1.3.), that is with introduces the primary and this is given a particular interpretation depending on the particular situation.

There are further points which show the non-synonymy of the sentence with a conjoined subject NP and of the associated sentence with a with-phrase. The comments of Langendoen (Langendoen, 1969) suggest that he is glossing over a difference in meaning: he says of the sentences

168a. The steamer and the tanker collided

b. The steamer collided with the tanker

that they have "essentially the same meaning", and the important word here is "essentially". When we distinguished between inherently symmetric predicates and optionally symmetric ones or "comitative" ones (5.2.2.), we noted that in sentences with with we are not necessarily dealing with two NPs in the same case relation to the verb. Thus, if John agrees with Bill, then it is the case that John does something, he takes a conscious decision: however, Bill would not be generally taken as having any Agentive role in the situation, that is, it would be an ill-formed discourse, or at least one with a particular effect, if we answered the question What did Bill do? by the assertion that John agreed with him. Similarly with regard to 158a and 158b above, Vestergaard (Vestergaard, op. cit.) observes that pier is interpreted as the object affected, the patient of the action, as is shown by the acceptability of giving 158b as the reply to What happened to the pier? Thus, the

"essentially the same meaning" of 168a and 168b is the collision, but the difference is more important than Langendoen allows, in that it involves the question of whether there is any Agent-Patient relation between the two nouns: in 168b the tanker suffers the collision and the steamer is responsible, while in 168a we have a more neutral form in that either both are responsible and both suffer or the speaker does not wish to attribute blame to either. Again, the notion of primary seems to be involved. Thus we may sum up by saying that, with a sentence containing a conjoined NP subject we have an unmarked form, but, with a with-phrase, the notion of primary enters, the full semantic import of this being related to the verb, with some it marks who was there first, who bought the drinks, or who suffered and was also the stationary object: basically we are dealing with the object with respect to which some action happened and which functions as one of the identifying markers of that action. This parallels the situation found in patterns i-iv, where with marks the object defining the state or location.

Further evidence is available which supports the non-synonymy of the conjoined NP subject and the with-phrase variant. Andrews (Andrews, 1971 but see also the discussion in Anderson, 1973a) uses for fun as a test and Fillmore (Fillmore, 1972) uses the adverb willingly. However, the situation is clearer possibly and more overt syntactically with the expression of his/their own accord. Thus if the following are not synonymous, as Fillmore and Andrews suggest:



169a. John willingly agreed with Bill

b. John and Bill willingly agreed

the lack of synonymy of the following is reflected in the ungrammaticality of the second sentence:

170a. John agreed with Bill of his own accord

b. \*John and Bill agreed of his own accord

which only becomes acceptable with a possessive pronoun in the plural. But this raises problems: the deep structure of 170a would presumably be "John and Bill agreed of John and Bill's own accord", such that the first occurrence of "John and Bill" pronominalises the second. Consider, however, the alternative derivation: Pronominalisation cannot apply before Conjunct Movement as this would produce the unacceptable

171. \*John agreed with Bill of their own accord

Thus Preposition Adjunction and Conjunct Movement apply before Pronominalisation to produce the string

172. John agreed with Bill of John and Bill's own accord but to produce the acceptable 170a we need a rule which either pronominalises "John and Bill" as his or deletes "Bill" to ensure that the subject and his are coreferential. Needless to say, there is not such rule discussed in the literature. Thus, there are more sound reasons for rejecting Lakoff and Peters' proposals for the treatment of conjoined NPs and the derivation of with. However, we would also claim that any treatment which involves the insertion by some transformation of a preposition is also inadequate, since it implicitly claims that any form could



appear, with is just an accident. In this respect, Lakoff and Peters' proposals are equally inadequate; the use of the features +special and +positive do not help in that they are said to be "arbitrarily chosen". However, we shall try to show that the occurrence of the preposition is not an arbitrary matter.

Before leaving this section, we must also note that the arguments against Lakoff and Peters also provide arguments against Fillmore's derivation which is essentially the reverse, i.e. conjoined NPs are derived by attaching some NP which originates under a Comitative case to the subject NP. The only way to save Fillmore's approach would be to allow doubly marked cases, as does Localist case grammar (see Anderson, 1975a and 1976 for some proposals for a Fillmorean grammar of this form and Schanks, 1972). Thus the NP dominated by Comitative could be attached to the subject if the Comitative was also marked for the same case relation as the subject.

#### 5.2.2.2. A Prepositional Mixture: to, from, with, between and and

We mentioned above the occurrence of with, to and from and the inadequacy of Lakoff and Peters proposals: the question which now needs to be asked is why these prepositions and no others, or for that matter why prepositions at all and not rhubarb, custard and pudding. The answer to this question is given by Anderson (Anderson, 1973a) and forms another argument for a Localist treatment of case, i.e. we are dealing with a parallel between concrete and abstract location.

Thus in expressions of concrete location we have near, close, hard (by), which, using Lakoff and Peters system, would be +positive, i.e. select to and apart, distant and a great distance which would, correspondingly, be -positive. Thus we have the trio of notions, "at somewhere", associated with Loc, "near somewhere" associated with All, i.e. the preposition to and "far from somewhere", associated with Abl, i.e. from, where Abl is also the negative of Loc (see Anderson, 1971a). Moreover, besides these stative expressions we have non-stative verbs like meet, join, separate, which may or may not be causative, but which under certain circumstances exhibit prepositional occurrences similar to that for stative verbs and adjectives.

173a. The Rhine and the Mosel meet at this point

b. John and Bill met

174a. The Rhine and the Mosel join at this point

b. Mary joined the two pieces of cloth

c. John managed to join the wing of the model to the fuselage

175a. The road for Glasgow separates from the road to Stirling here

b. John separated Roger and Fred

The verbs and adjectives mentioned so far are essentially concrete, but they do have corresponding abstract verbs. Thus, Anderson observes that separate is also a partial synonym of the abstract "topological" verb divorce, and similarly the concrete local verb join appears in the expression join in wedlock, which Anderson suggests has a structure which elsewhere lexicalises as marry (Anderson,

op. cit.). Thus a Localist grammar will treat such verbal expressions as related and handle the differences between to and from in terms of the cases All and Abl in the underlying structure, and in so doing will handle such facts in terms of general properties of the grammar and not as accidental facts associated with particular verbs via certain arbitrarily chosen features in Lakoff and Peters' manner.

How, then, are with and between relevant to this? The preposition between is of importance since it is essentially a means of neutralising the notion of direction implicit in a sentence which contains a non-stative verb with an All and Abl. Thus

176. The river flows from Leek to Trentham through some of the worst Industrial landscape in Britain

177. The train runs from Birmingham to Carstairs, where you change

In each case the from-phrase marks the point of origin, the starting-point. A river can only flow between two towns if the river separates them, and this is a general property of stative expressions:

178. The town lies between two ranges of hills

In the case of non-stative expressions, generally between marks a two-way movement:

179. On Wednesdays, the train runs between here and Upper Neasby-under-Dene

The full neutralising force of between is only seen with reference to symmetric predicates and here again we need to make use of the notion of "primary". In such sentences,



the primary does not refer to the location which is assumed to be known or relevant to the situation, but to that which is in some sense more important, more stable, of greater authority etc. Compare:

180a. The new bridge connects the island to the mainland

b. The new bridge connects the mainland to the island

181a. The fireman connected the hose to the fire-engine

b. The fireman connected the fire-engine to the hose

182a. John joined the wheel to the axle

b. John joined the axle to the wheel

183a. John is distantly related to the Fotheringays

b. The Fotheringays are distantly related to John

184a. John associated with an unsavoury crowd of lay-abouts

b. An unsavoury crowd of lay-abouts associated with John

In each of these sentences the (a) version is the more normal and we need to make some special assumptions when dealing with the (b) versions: for example, islands are usually dependent on the mainland, but if Anglesey invades Britain and becomes the seat of government, then 180b is more likely. Notice that such sentences show that verbs which are normally called symmetric are not necessarily so under all circumstances. There are other syntactic peculiarities of between which we shall consider below, but for the moment notice that between is restricted in its occurrence with verbs:

185. ?The new bridge will connect between the island and the mainland

186. \*John joined between the axle and the wheel

This could be explained in terms of the lack of necessity to mark the case relations between the verb and the following noun. However, in the following sentences with a nominal related to the verbs above, a preposition is needed to mark that relation:

187. This bridge is the only connection between the island and the mainland

188. The join between John's toupee and remaining hair is only too obvious

189. The relation between the two events is difficult to show

190. There is no similarity at all between the two things

The role then of between is to neutralise the primary, just as in the case of 168a above the use of and in the conjoined NP subject may be used to be diplomatic about who was responsible for the collision.

Turning to with, we see again that it is used like to to mark the primary. The concept is somewhat difficult to pin down in terms of a concrete definition and seems only capable, at the moment, of an extensive definition: thus it is the object defining a place, the person who buys the drinks or who was at a point first, the stationary object affected, that which has greater authority. However, it does appear to correspond to something basic in our experience of language. Consider your reaction if instead of writing, for example, "We agree with Anderson that..." we consistently wrote "Anderson agrees with us that...". Yet this primary-marking function of with is not always clear and consistent,

especially with the verb collaborate:

191. John collaborated with Mary in a study of verbal extensions

In this sentence most speakers will not assign either John or Mary to the primary function: but there seem to be two ways of clarifying the situation so that we obtain a clear reading with Mary as primary, firstly by embedding 191 as in:

192. Mary <sup>persuaded</sup>  
got John to collaborate with her in  
writing the paper

It may be objected that this has something to do with the coreference of the object of with and the subject of the causative, but the prepositional phrase is interpreted as the primary even without this coreference:

193. Bill persuaded John to collaborate with Mary  
Here Mary must have been working on some topic before John was persuaded to participate in that work. The second test does not work for all speakers, and involves adding a possessive pronoun to study.

194. John collaborated with Mary in <sup>this</sup> study of  
her verbal extensions

As already stated and is the neutralising form when between is blocked from marking the case relation. Thus if with marks the primary in the following:

195. John agreed with Bill  
196. John left with Bill  
197. John is related to Bill  
198. John conferred with Bill

the corresponding sentences are vague or unspecified with conjoined NPs:



- 199. John and Bill agreed
- 200. John and Bill left together
- 201. John and Bill are related
- 202. John and Bill conferred

Thus in the case of 195 Bill must have said something with which John could agree, but in the corresponding 199 we do not know who proposed the idea. In 198 John must have gone to Bill for advice, while 202 is unspecified as to the initiator of the conference. The same also holds of conjoined object NPs with those verbs which allow them:

- 203a. The promoter matched John <sup>against</sup> the Mad Man of Borneo <sub>with</sub>
- b. The promoter matched John and the Mad Man of Borneo
- 204a. John identified and-ing with universal quantification
- b. John identified and-ing and universal quantification
- 205a. John compared Bill's results with those obtained by Mary
- b. John compared Bill's results and those obtained by Mary

(204a and 204b are modified forms of a sentence occurring in Anderson, 1976b and it is of interest to note that Anderson chooses the conjoined NP form, thus presumably being neutral as to the structural priority of the two.)

#### 5.2.2.3. More on between

We can make some tentative proposals for the treatment of symmetric predicates along the lines of Anderson's paper (Anderson, 1973a). Thus agreement or likeness will be a relation or event which passes from John to Bill, where it

is the noun governed by Abl which is raised and made the surface subject. With expressions of difference or dissimilarity, the All will be made subject and the Abl remaining dependent on the predicate will account for the occurrence of from. This will parallel our analysis of CAUSE predications in the preceding chapter, which we treated in terms of an Abs governing CAUSE and an Abl and All governing the causal event and the result respectively, that is just as agreement and similarity is from one person to another and is also between people, so causation is a relation passing from one event to another and we can also say that there is a causal relation between two events.

In fact, it is difficult to keep the discussion of between separate from several other important points connected with conjunction, with and the relation of each other to reflexives. The first point concerns the restrictions on the occurrence of between.

#### 5.2.2.3.1. Verb with and vs. Nominal with between

The first thing to note is that most of the reciprocal verbs have a corresponding nominal form: meeting, join/ joining, marriage, match, collision, association, comparison, conference, similarity, difference, resemblance etc. All these forms allow between and conjoined NPs besides of and conjoined NPs:

206. The meeting <sup>between</sup><sub>of</sub> John and Bill failed to live up to expectations

But, as already noted, in the corresponding verbal forms, between is unacceptable:

207. The join(ing) between the two pieces of wood was imperfect

208. \*John joined between the two pieces of wood imperfectly

However, there are other facts about these nominalisations with between. Compare the following:

209a. There was a collision between a steamer and a tug

b. A steamer was in collision with a tug

c. A steamer had a collision with a tug

210a. There was a conference between the heads of department

b. John was in conference with Bill

c. John had a conference with Bill

211a. There is some similarity between John and Bill

b. John is similar to Bill

c. John has some similarity to Bill

These sets of sentences suggest that we should have a structure similar to those proposed above (5.2.1.) for location and possession and that between is the marker of Loc when this Loc governs a conjunction of NPs and is itself governed by one of a certain set of nominalisations. But we return to this below.

#### 5.2.2.3.2. each other and reflexivisation

In the literature, there is much discussion of sentences like the following:

212. 100 soldiers shot two students

213a. 100 soldiers each shot two students

b. A group of 100 soldiers shot two students

(see Lakoff, 1970, Partee, 1971, Anderson, 1974 for discussion



and references) 213a and 213b have been distinguished on the basis of a feature +joint, such that on the +joint reading, i.e. 213b, only two students are shot, while on the -joint reading 200 students are shot. These two sentences have been looked on as means of distinguishing between the two readings of 212 which is claimed to be ambiguous between the +joint and -joint readings. However, it seems that there has been no mention of the disambiguating function of the between-phrase which also gives a +joint interpretation:

214a. Between them, 100 soldiers shot two students

b. 100 soldiers, between them shot two students

We wish to compare this situation with each other.

It has frequently been noted that some languages have a reflexive element with reciprocal verbs (cf. French, se battre "to fight (each other)", se réunir "to join", se mettre d'accord "to agree", for Russian see Miller, 1971). However, English does not seem to allow reflexives in reciprocal sentences, preferring each other, yet, as is seen in Dougherty and Jackendoff (Dougherty, 1970, Jackendoff, 1972), each other is governed by a simple sentence condition similar to that for true reflexives. However, we do, in fact, find sentences with reciprocal meaning which do contain reflexive forms. Certainly the following is unacceptable:

215. \*John and Bill agreed with themselves  
as a paraphrase of

216. John and Bill agreed with each other

but if we change the preposition, then a reflexive is possible, but this preposition must be between or amongst, this latter being better with more than two NPs conjoined:

217. John, Bill and Mary agreed <sup>between</sup> themselves  
that they should go <sup>amongst</sup>

Notice that each other, replacing the reflexive, is at best marginally acceptable, if not totally unacceptable for some speakers.

One way in which we might account for these facts would be to posit a structure for 217 which, at the point where Reflexivisation occurs, has the conjoined NPs John, Bill and Mary occurring both in subject position and as "object" of the preposition between. We might then allow each other to be that form of the reflexive pronoun which occurs when the coreferential NP is object of the preposition with as opposed to the "true" reflexive pronoun after between. Alternatively, we could treat each other as a derived construction via a rule like Each-Hopping (Dougherty, 1970), or finally as a constituent generated in the base like Jackendoff (Jackendoff, 1972). A full evaluation of these proposals is outside the concerns of our present interests, but we can make some observations which are also relevant to with.

Lakoff and Peters (Lakoff and Peters, op. cit.) restrict their comments on the prepositional phrase with each other to a footnote and claim that under their analysis this is redundant in sentences like:

218. John and Bill are similar to each other

since the underlying structure of this would contain two conjoined sentences with the conjoined NPs John and Bill differing in order in each. Conjunct Movement would apply to each of the sentences to produce a structure for each which, in fact, corresponds to what Gleitman (Gleitman, 1969), Postal (Postal, 1972a) and Stockwell et al. (Stockwell et al., 1973) suggest lies under reciprocal sentences, namely something which we can represent as:

219. John is similar to Bill and Bill is similar to John

Notice that such an analysis, whether employing Conjunct Movement or not, does not provide any means of accounting for the occurrence of each other nor for synonymous, though neglected, one another as opposed to, for example, Harmony Hair-spray (i.e. John and Bill are similar to Harmony Hair-spray, but synonymous with 218). The one point in favour of Lakoff and Peters' approach would be that it is not victim to the argument against sentential derivation which Langendoen makes (Langendoen, 1969). Langendoen argues against Gleitman's treatment, in which all conjoined NPs are derived from sentential conjunction, on the basis that the rule which deletes the preposition plus each other to derive 220 from 218

220. John and Bill are similar

must depend on whether the verb is symmetric or not, since the deletion is optional with symmetric predicates while it is impossible with non-symmetric predicates: that is, the prepositional phrase cannot be deleted from 221 without altering its meaning:



221. John and Bill listened to each other  
For Lakoff and Peters, however, the sentences have different origins, 221 deriving from what would surface otherwise as

222. John listened to Bill and Bill listened to John  
and the variant of 221 without the prepositional phrase,  
i.e. 223

223. John and Bill listened  
would derive from 224

224. John listened and Bill listened.

One further fact which must be taken into account in any full discussion of the treatment of each other and also one another concerns the status of the structure with the preposition splitting the two elements:

225a. John and Bill agreed one with the other

b. John and Bill agreed one with the other

Notice that the definite article must appear, else the sentence is unacceptable, but the problem is to decide firstly if each with the other is to be related to each other in a systematic fashion or whether the occurrence of each and other in both is an accident of language and secondly, if they are related, what is the order of derivation, i.e. is there a rule moving each into the prepositional phrase or a rule moving it out of that constituent (for a fuller discussion see Dougherty, 1970, 1971, Jackendoff, 1972, Lasnik and Fiengo, 1973).

One final point before leaving this section concerns whether each other is, in fact, redundant, as Lakoff and Peters assume. Certainly there is some evidence to suggest

that this is not the case in all circumstances. Compare:

226a. The two old ladies agreed that Glencora should marry

b. The two old ladies agreed with each other that Glencora should marry

227a. John and Mary embraced

b. John and Mary embraced each other

Some speakers appear to find a difference in meaning between the (a) and (b) examples which could be captured in terms of a joint versus reciprocal distinction. 226a is neutral as to who was the primary, that is, it is of no interest to the speaker who was the primary, who first put forward the proposal, the agreement is the essential fact. Alternatively, there may be no primary at all, that is we are dealing with a verb agree which means "come to an agreement". This would be in keeping with the general suggestion that with a joint interpretation there is only one action (see Hudson, 1970, McCawley, 1968, Stockwell et al., 1973). In 226b, however, there are two primaries and associated with this two actions, in that each of the old ladies believes that Glencora should marry and in articulating this idea they find that they are in agreement. Similarly in 227a and 227b, in the one there is a mutual embrace, while in 227b there is a reciprocal embrace or two separate actions of embracing. If, in fact, this difference is systematic, then the fact that in the (b) sentences two actions or primaries are understood could be captured in a grammar which derives them from conjoined sentences, as does Lakoff and Peters analysis, as opposed to the simply sentence origin of the (a) sentences, assigning

a derived status to each other.

#### 5.2.2.4. together

Lakoff and Peters (Lakoff and Peters, op. cit.) claim that together and both mark phrasal and sentential conjunction respectively. However, Stockwell et al. (Stockwell et al., op. cit.) suggest that together cannot be related in such a straightforward manner to phrasal conjunction, i.e. it is not, as Lakoff and Peters imply, a marker of phrasal conjunction only, or we would not be able to deal with sentences such as:

228. John, Bill and Mary died together  
in which we have separate events, i.e. deaths, and the important point is that they occur at the same point in time and space. Notice that there is a relation here between time and location which is in keeping with the Localist hypothesis (see Anderson, 1971a). Hudson (Hudson, 1970) also observes that together is more closely related to the notion of "at the same time", rather than to phrasal conjunction. In fact, this would possibly be better stated as at the same time and place. Thus 228 would be odd if John, Bill and Mary died at the same place but at fortnightly intervals, although it is not quite so odd to say:

229. ?John and his wife died together, though they were  
miles apart

It seems likely that it is the notion of simultaneity which underlies the use of together to mark phrasal conjunction, and it is this notion of sameness of time or place which is worth further study in that it again ties in with some of the points about the use of with which we mentioned in our



discussion of patterns i-iv above, just as does the notion of primary.

Anderson (Anderson, 1973a) points out some facts about together which do not immediately support a relation between this particle and the notion of sameness. However, it is possible to show that these observations do not allow the straightforward correlation which he makes. Consider:

230a. John joined the wheel to the axle

b. John joined the wheel and the axle together

231a. The Rhine flows into the Mosel at this point

b. The Rhine and the Mosel flow together at this point

Anderson notes that a to-phrase and together are in complementary distribution in these sentences and that this latter form appears to contain the preposition to. He suggests that together is a deletable to-phrase where the following NP is a reciprocal, so that it is equivalent to to each other. However, such a simple equation of the two may not be possible. As Anderson observes, there are sentences where together is unnatural, while each other is not:

232a. ?The Rhine and the Mosel meet together at this point

b. The Rhine and the Mosel meet each other at this point

This would follow from the fact that to each other is also unacceptable in 232a. However, there are still further cases where there is no possibility of a to-phrase, but together is perfectly possible:

233a. John and Bill died together

233b. John and Bill left together

although it does seem in general that true symmetric verbs which take the preposition with are odd with together:

234a. ?John and Bill collaborated together

b. ?John and Bill agreed together

Finally there are some sentences where we find a to-phrase which is a reciprocal but in which together is unacceptable or at least changes the meaning:

235a. John and Bill are similar to each other

b. \*John and Bill are similar together

236a. John and Bill ran into each other in the shop

b. ?John and Bill ran together in the shop

However, if there is some doubt about the conclusion's of Anderson, we find support for the relation between together and the notion of sameness from the history of English and from other languages. Historically together derives from the preposition to and the reconstructed form \*gaduri, which is the locative or instrumental case form of a nominalisation of the verb which underlies Modern English to gather and which originally meant "join, unite, put together", that is, together originally was closely related to something like in unison, in conjunction and notice that both of these forms take a with-phrase, as also does the form together itself.

The relation with sameness is more evident in other languages. Thus Latin used a form simul where we might use together, a form which elsewhere can be translated as "at the same time" (cf. English simultaneous). Modern French

ensemble "together" derives from Latin simul with a locative preposition prefixed. German uses the form zusammen or beisammen, with the prefixes zu- and bei- ("to" and "at" or "with" respectively) prefixed to a form which is related to English same and probably related also to the verb sammeln "to collect". The same root is also used in Danish to translate English together, namely sammen and its relation with the notion of sameness is shown in other compounds: thus samtidig and samsteds mean "at the same time" and "in the same place" respectively and sam- functions as a verbal prefix similar to English co- (cf. coreference, co-occurrence, from Latin cum "with"). Miller (Miller, 1971) remarks that in Russian vmeste s translates English together with, where s is the marker of phrasal conjunction, v- occurs elsewhere as a preposition meaning "in" and meste means "place". That this relation is not limited to Indo-European languages is shown by the fact that Swahili has a form pamoja usually translated as together which can be analysed as the locative prefix pa- prefixed to the form maja which means "one". Moreover, this is followed in certain constructions with the particle na, which as we saw above (5.1.1.) closely parallels English with.

Besides historical and comparative support, we find further evidence in certain parallels between together and the notion of sameness in constructions in English. We have already touched on the relations between the following:

237a. Your keys are with your wallet

b. Your wallet is with your keys



237c. Your wallet is in the same place as your keys

d. Your keys are in the same place as your wallet

e. Your wallet and your keys are in the same place

However, we also find corresponding sentences with  
together (with) substituting for in the same place (as):

238a. Your wallet is together with your keys

b. Your keys are together with your wallet

c. Your keys and your wallet are together

These are all sentences of concrete location, but it is possible to find parallel sentences with abstract location, where with occurs:

239a. John is with Bill in this matter

b. Bill is with John in this matter

c. John and Bill are in the same frame of mind in this matter

d. John and Bill are together in this matter

Notice that the in-phrase also parallels other facts which we have observed, in particular the occurrence of a nominalisation in

240a. John is in agreement with Bill

b. John is in conference with Bill

Further we find sentences with past participles substituting for the in-phrase but under a Localist analysis the former will in any case be derived from the latter.

241. The cart is loaded with hay

Thus we see that there is a generalisation possible in terms of two features with respect to the preposition with:

firstly, an object is located in concrete or abstract space

and secondly this location is defined with respect to some other object which we have called the primary. We shall now turn to the third category of uses of the preposition with, namely with attitudinal verbs.

### 5.2.3. Attitudinal Verbs

Within this category we include sympathise, be surprised, be hateful, be in love, be disgusted, be pleased, be familiar, be content, be happy, be strict, be good, be angry etc. We might also include other expressions which seem to be closer in meaning to something like "act in a certain way towards something", that is such expressions as be careful, be respectful, etc. In fact this category may well be more heterogeneous than the list suggests. Notice that Lakoff and Peters (Lakoff and Peters, op. cit.) group be in love in the category of reciprocals and certainly there is much in common between some of the verbals which we discussed in the last section and these attitudinal verbs: notice that, in particular, both are essentially expressions of relations of some form which pass from one person to another.

Let us, for a moment, consider what we have said about with and the other prepositions which occur in the structures discussed. For the load-hay type of sentence, the object which moves towards a location is marked by with in device sentences and has no prepositional marking in the locative sentence and correspondingly we have of and the absence of marking in the reverse of such sentences, i.e. movement away from. For the reciprocals and comitatives we have with and more rarely to, which does suggest some possible

relation here between with and the Goal case, i.e. Abl, and for the negatives we have only the preposition from, where from is more clearly a marker of Abl than the of which occurs in the reverse of load-hay type verbs.

Turning to the attitudinal verbs, we find a much closer relation between the notion of movement and the preposition with, in particular with appears to mark a Goal:

242a. John sympathised with Bill

b. John gave Bill his sympathy

c. John was sympathetic towards Bill

243a. John is in love with Mary

**b. John's love for Mary knows no bounds**

**Compare these with:**

244a. John set out for London, but dropped dead on the way

b. John threw the ball towards Bill, but it dropped short

in which the prepositions for and towards mark a Goal which is not reached, what we have called the Adversative.

However, if with appears to be in relation to Goal-marking prepositions, seemingly in contrast with the locative function that we have recognised before, this apparent ambiguity of function is not restricted to it alone. Thus at is clearly a locative preposition, yet it still marks the Adversative in certain restricted sentences with the verbs aim, throw, kick, strike etc. Further at can also be used with some verbs of attitude:

245a. John is angry at  
with Bill

b. John was surprised at Hill



There do not seem to be any clear examples of negative forms correlating with these verbs of attitude in the same way that there are for other verbs which take with. Possible candidates would be jealous of, envious of, distrustful of, afraid of, but such a classification depends more on the preposition of and its correlation with Abl than on any semantic criterion, since it is difficult to conceive of an attitude which would, in some way, fulfil the role of being a negative in this category.

We pointed out above that be careful with may be a member of this category. However, there are further problems with this sub-category. Consider the following:

246. John is happy with his wife

247. John is pleased with Bill

248. The alsatian is good with children

249. John is strict with his pupils

Most speakers will detect some ambiguity in these sentences to a greater or lesser extent. On one reading the with-phrase has a temporal reference, i.e. "when he is with...", where we have a locative with as in patterns i-iv. On the other reading, 246 and 247 differ from 248 and 249 in that in the former for John to be happy or pleased does not entail necessarily that John is in the presence of the goal of that emotion, while in the latter, if, for example, the alsatian is to be good with children, he must be in their presence, and for John to be strict he must, in some way, be operating on the children. This difference between being in the person's presence or not seems to serve as a means of

distinguishing between the two sub-categories of attitudinal verb, on the basis, that "true" attitudinal verbs do not involve the physical presence of the object, while the second category of verbs do involve necessarily such presence. Notice that with "true" attitudinal verbs, the nature of the noun in the with-phrase affects the possibility of an ambiguous sentence: if the noun is animate and concrete, then we can have either the temporal or attitudinal reading, but if the noun is abstract, then only the latter reading is possible:

250. John is happy with the sonnet he wrote this morning

251. John was pleased with the rehearsal he had last night

If we posit an embedded temporal predication with animate nouns, then we would be able to predict that 250 and 251 have only one possible reading on the basis of the unacceptability of the corresponding:

252. \*John is happy when he is with the sonnet he wrote this morning

253. \*John was happy when he was with the rehearsal he had last night

There appears to be reason for removing from the category of attitudinal verbs be careful, be respectful, be strict, be good etc. on the basis that the with-phrase is a temporal/locative expression. However, there are other uses which can best be treated as variants of the with which occurs after do. Thus instead of the simple with-phrase, after be careful, be strict etc. after these verbs we also find in dealing with which may be the full form of

the with-phrase. Alternatively we might have a Purpose predication whose Loc governs an expression of the form "John BE careful" which a do-with type predication embedded in it. Subjunction will subjoin the form be, the lexicalisation of BE, to the higher DO, so that the surface verb will be be, although it has the properties of an agentive verb.

We shall now look at the with occurring after "true" attitudinal verbs more closely. There is little discussion of these verbs in the literature, although many are aware of the problems they present. Lakoff (Lakoff, 1970) lists amuse, surprise, please and satisfy as verbs which undergo the rule Flip, that is given a structure which would otherwise surface as

254. What John did amused me

having a sentential subject and an animate object, Flip may apply with a similar affect to the passive transformation, moving the subject into a following prepositional phrase and the object into the vacant subject position to form 255

255. I was amused at what he did

The analysis is not of great service to our present interests, since it gives no means of accounting for the prepositions at, towards, with which occur after these verbal elements, but it does show that Lakoff does not see 255 as simply an alternative to the passive with by. However, it is the close parallel with the passive with makes it unsatisfactory, besides the lack of motivation for the preposition. Thus 254 is causative and the passive derived from it is non-stative,



256a, but 255 derived by Flip is stative, this being shown by the progressive aspect test:

256a. John was being amused by Bill

b. \*John was being amused at Bill

(For more on the rule of Flip and Flip-perception verbs in general see Rogers, 1972.)

Anderson (Anderson, 1971a) also mentions these verbals and suggests that we need to distinguish between adjectival and non-adjectival forms of such predicates, which in some cases may be homophonous, pleased, perturbed, annoyed, or distinct glad, angry, grateful, and further that only the non-adjectival form allows what he calls the Ergative re-categorisation rule. This is a rule which introduces Erg with respect to such case elements and is responsible for the appearance of by with verbal forms, that is, Anderson is making the distinction between stative, i.e. adjectival and non-stative, i.e. non-adjectival forms. Although the discussion is not so explicit on this point, it appears that the case which is realised by the prepositions at, for, towards, with after such verbal elements is Nom (which corresponds to Anderson's more recent usage of Abs). However, data which we present below suggest that the relevant case is probably All (which, in any case, for Anderson is a variant of Loc if the V also governs Abl).

Stockwell et al. (Stockwell et al., 1973) is of less use since their analyses are neither consistent nor supported by any form of argumentation. There is no explicit reference to these verbs and the use of with and what information there

is comes from examples of case frames in the body of the text and in the sample lexicon. However, this is where the problem lies, since where the case frame for a particular verb is given in the text and in the lexicon, then they are not necessarily in agreement. This is a consequence of their approach and of a non-Localist case grammar in general, since, having no notion of how many cases there are nor of whether there is a well-defined set, there is no firm basis which can be followed rigorously to decide the case structure of any sentence. At least the Localist hypothesis allows hypotheses to be formed about the relations between particular case relations and case forms which can be tested for their adequacy. The other failing with Stockwell et al. is that there is no, or at least very little, regularity in prepositional usage. Both points can be illustrated with attitudinal verbs. Thus, for example, on p. 48, it is claimed that the with-phrase and the at-phrase of the following nominalisations:

257a. The familiarity of the conductor with the music

b. The amusement of the crowd at John's antics

represent underlying Neutral cases (the equivalent of Fillmore's Objective and Anderson's present Abs). Elsewhere with represents an Instrument and at a Locative. Possibly by analogy with the above examples, on p. 58, although given as an example of the varied uses of the preposition by, the prepositional phrase of:

257c. He was surprised by the news

is claimed also to represent a Neutral, but we have already



suggested that there is no basis for such a close analogy between 257a and 257c. Looking now in the lexicon, we find a discrepancy: note firstly that surprised is not listed so that we cannot check this verb, but the entries for amused, amusement and annoyed are all marked by the feature +Prep Ins at, that is the Instrument case is realised by with, which contradicts their earlier statement, while familiar is marked consistently with the text as +Prep Neut with. In view of the uncertainty and lack of motivation of the proposals, we shall not consider further Stockwell et al.

The fullest discussion in the literature that we have found relating to attitudinal verbs is that of Postal (Postal, 1971). Postal treats these verbs in his discussion of the rule of Psych-Movement. This rule is similar to the rule of Flip dealt with by Lakoff (Lakoff, op. cit.) in that it carries out the same sort of operation but it takes a different structure as input. In fact, Postal is less committed as to the structure of the input string than is Lakoff: Lakoff assumes that the structure underlying:

255. I was amused at what Bill did  
would otherwise surface as

254. What John did amused me  
while Postal simply states that the underlying nominal-verbal relations in 255 are the same as in

258. What John did was amusing to me  
Notice that Postal relates 255 to a different structure, being aware of the difference between 255 and the corresponding



Flip-form in terms of the stativity of the verbal elements involved. Thus he states that in the following we should not confuse the (a) forms with the passive forms found in the (b) examples.

259a. John was surprised with Bill  
at

b. John was surprised by Bill

260a. John was disgusted with Bill  
at

b. John was disgusted by Bill

261a. John was horrified with Bill('s proposals)  
at

b. John was horrified by Bill('s proposals)

Firstly the (a) examples describe a state and not an event as in the (b) examples. Correlated with this is a fact also mentioned by Jespersen (Jespersen, 1933) and taken up also by Olsson (Olsson, 1961), namely that the (a) forms allow modifiers of degree:

262a. I was most/very surprised at that

b. \*I was most/very surprised by that

(although it seems that most speakers do not feel that 262b is completely unacceptable, while some see nothing wrong with it at all). This relates, in fact, with Anderson's distinction between adjectival and non-adjectival forms of the predicates. Postal also cites evidence from Chapin (Chapin, 1967) namely that the (a) examples do not allow an instrumental, while true passives will:

263a. Irma was amused by Jerry with a harmonica solo

b. \*Irma was amused at Jerry with a harmonica solo

The validity of Postal's third piece of evidence seems to be doubtful for some speakers since they do not detect

the unacceptability on which it depends: Postal claims that the selectional restrictions for the (a) and (b) forms differ and gives the following examples (Postal's unacceptability judgements marked):

264a. I was mystified by Harry

b. \*I was mystified at Harry

265a. I was nauseated by Harry

b. \*I was nauseated at Harry

A fourth piece of evidence concerns the restricted acceptability of the sentences where passivisation and reflexivisation occur in the "same minimal clause":

266a. Charley stabbed himself

b. \*Charley was stabbed by himself

where 266b is only acceptable with the emphatic stress on himself. Thus if the (a) forms are, in fact, passives, then the following should only be acceptable, likewise, with emphatic stress on the reflexive, but this is not the case:

267. John was surprised at himself

268. John was disgusted with himself

Although the point is not crucial to our discussion, it is worth noting that, as Postal points out, agree which we have treated as a symmetric verb can also behave like a Psych-Movement verb:

269a. The store agreed to my request

b. My request was agreeable to the store

Further support for the non-passive nature of the (a) forms comes from the fact that there are other verbal expressions which seem to be semantically related or at least



in the same semantic class, e.g. sympathise, be angry, yet they will not allow a by-phrase nor are they passive in form. Moreover, sympathise, like many of the symmetric and comitative verbs, has a related nominal form and also an adjectival form which take with and towards, be in sympathy with and be sympathetic towards.

There are two problems which we must consider: firstly, is there any difference between being surprised at and surprised with something and secondly what exactly is the relation between with and other prepositions which occur after attitudinal verbs. The fact that at and with are not normally interchangeable may lead us to expect some difference between the two in these constructions. However, any such difference is difficult to detect. Thus, we might distinguish them in terms of surprise being directed at someone as opposed to its being located with someone, retaining the locative nature of with. However, not only is it difficult to conceive of locating surprise at someone, it is also difficult to motivate retaining the locative nature of with and not of at, for just as at can have the function of marking the Adversative, at least with some symmetric predicates, with also seems to mark a Goal or is in relation with prepositions which elsewhere mark Goal or Adversative.

With regard to the second question, although there is not strong syntactic evidence for the position, most of the evidence being negative, it seems possible that this use of with to mark Adversatives is a reflex of the Adversative function of the Old Norse preposition við. To claim that



there is no strong evidence is not to say that there is no evidence at all. Firstly, the very history of the preposition shows that the suggestion is not immediately untenable. Further indirect support comes from the treatment of these verbs in two other Indo-European languages: in Latin, the dative case, which was a case of movement with verbs of giving and in certain examples like the following:

270. It caelo

'It raises towards heaven'

and also the case of the Benefactive, was used after the verb irascor "to be angry"; Russian uses the form serdit'sja na+accusative to express be angry, where na+accusative elsewhere expresses movement onto.

As already mentioned, there was evidence with other verbs of a relation between with and the marker of Adversative. Notice that with also alternates with the adversative preposition against after the verbs fight and match; in fact, this alternation is given in some works on Middle English prepositional usage as a possible reason for the fusion of the forms mid and viþ to produce Modern English with. Finally there is some semantic support in that all the verbs are concerned with the subject's attitude or emotional response to someone or something, and notice that we talk of attitude to things.

Using these facts as a basis, we can now try to extend our discussion of patterns i-iv into other areas of the use of with which help to further specify the form and the functioning of the grammar developed in the preceding chapter.

For our purposes, the most fruitful area will be the load-hay type of verb, and to a lesser extent the symmetric and comitative uses of with. Little will be said in detail about attitudinal verbs.

Before leaving this section, however, we must point out that we have not discussed the with which we might call temporal and which appears in such sentences as the following:

271a. With the radio on, John cannot concentrate

b. With the window open, John's papers got wet

Lee (Lee, 1971) discusses the restrictions on this structure, and Dreike (Dreike, 1973) discusses the same structure found with the preposition bei in German. We have already pointed out that it is similar to the use of the Latin preposition cum in temporal clauses, this preposition having comitative, temporal and causative uses, often translated as with.

One strong possibility is that all these temporal uses of with are simple extensions of patterns i-iv and are related to the notion of sameness, that is, there is a temporal comitative relation between, for example, the radio's being on and John's being unable to work, just as there is a concrete locational comitative relation between keys and wallet in

272. Your keys are with your wallet

Any causal overtones to the sentence, then, may be a function of pragmatics. This use of with is not directly relevant to the extension of the grammar needed at the conclusion of the preceding chapter and we simply assume that it can be related to patterns i-iv.



### 5.3. CAUSE and Types of Object

This section of our study will be concerned with the extension of the grammar to account for the use of with in the device variant of the load-hay type sentences. In concentrating on the grammar of the sentence:

273. John loaded the cart with hay

we shall make some proposals for the treatment of internal and external objects, complete and incomplete verbs and activity and accomplishment verbs: that is, those questions which were not fully answered in the preceding chapter. We can, in fact, group these into two classes: activities, internal objects and complete verbs can be correlated with each other just as accomplishments, external objects and incomplete verbs. Activities are not goal-orientated, since they do not normally involve a well-defined point of completion, but they do involve some object which is moved and are complete in that they do not require any other activity. For example, one does not normally walk by doing some other activity. On the other hand, accomplishments are goal-orientated, do involve an object which is acted upon and is external to the action, and do involve some other activity. For instance, someone kills a person by performing some other action such as stabbing or throwing an electric fire into a bath-tub already occupied by the victim.

It seems likely, then, that of the pair 273 and 274:

274. John loaded hay onto the cart

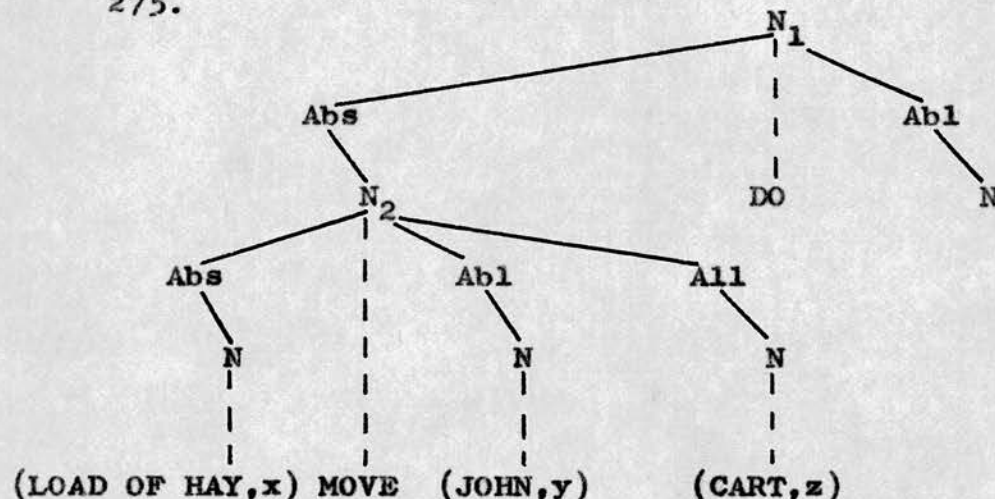
it is the latter which is the more basic, being an activity with an internal object and a complete verb, while 273 is



to be derived from it in some way: it has an external object acted upon, the cart, it is an accomplishment sentence in that the object ends up in some well-defined state, i.e. loaded, and the verb is incomplete, carts are loaded by loading something onto them. We shall begin, then, by looking at the structure of 274. One first approximation would be 275 (see below).

Here  $N_1$  is an activity predication and  $N_2$  is the predication of movement. Notice that Abl of  $N_2$  is semantically specified as (JOHN,y): this, in fact, is not crucial to our proposals and is not a necessary property of the structure. However, it might help to account for the fact that 274 is not so acceptable if the source is specified.

275.



276. ?John loaded the hay from the barn onto the cart  
 There are three questions which we must pose of structure 275: firstly, is the All of  $N_2$  adequate, secondly, how do we obtain the surface verb load and thirdly how does this structure help with the preposition with?

## 5.3.1. Goals

We have already briefly introduced the distinction between point reached and point towards which movement is directed, Goal and Adversative respectively, corresponding to the distinction between towards, at and for and to and onto and into. One point which helps to distinguish the two categories is the compound nature of the latter group in general. There are two further facts which suggest that it is more advisable to treat Adversative as the basic case All and Goal as some more complex form, an underlying All. Loc.

The first evidence comes from some observations made by Anderson (Anderson, 1976a) on ambiguities in sentences like:

277. The sheriff of Nottingham jailed Robin Hood for four years

The first observation is due to McCawley (McCawley, 1971a) who points out that 277 is ambiguous: on the preferred reading for four years specifies the period of Robin Hood's incarceration, and thus provides evidence for the presence of such a predication in the underlying structure. The second reading would be that on which the sheriff kept putting Robin in jail and our hero repeatedly escaped over a period of four years. Anderson uses this ambiguity as support for a complex case with Goals, since we find this ambiguity with such cases, but not in sentences with unattained goals or what we call Adversatives:

278a. He went to London for 5 hours

b. He went towards London for 5 hours

In 278a the subject was actually in London for the length of

time specified, but in 278b the travelling towards London lasted for 5 hours.

The second piece of evidence comes from the relation between the two types of goal and the activity vs. accomplishment distinction. In fact, it appears that we cannot make the clear and simple correlation between accomplishments and the presence of an underlying CAUSE predication, rather sentences with such underlying structures form a sub-set of accomplishment sentences. As Mittwoch (Mittwoch, 1971) points out, the fact that an action can be completed is not solely related to the type of direct object, which is probably the more commonly discussed area, that is direct objects which are definite correlate with completion and indefinites with non-completion:

279a. John ate the apples \*for five hours/in five hours

b. John ate apples for five hours/\*in five hours

but on other factors also, one of these being the difference between Goal, or the point reached, and Adversative, the point aimed for:

280a. John carried the cases towards /\*to the station  
for 5 minutes

b. John carried the cases \*towards/to the station  
in 5 minutes

This relation between Goal and Accomplishment verbs is natural in that accomplishment in Localist terms will involve some object being in some final state, which will be encoded in the Loc of the complex case <sup>All</sup> which we have proposed.  
<sub>Loc</sub>

The interaction between definite direct objects and Goals is interesting in the locative sentences like those



under discussion. Thus with an indefinite object a locative sentence can be either an activity or an accomplishment:

281. John loaded hay onto the cart in/for 5 hours  
while a definite object prefers an accomplishment reading:

282. John loaded the hay onto the cart in/? for 5 hours  
The situation is clearer with a quantifier construction:

283. John loaded <sup>seven bales</sup><sub>all</sub> of the hay onto the cart  
in/\*for 5 hours

The interaction between Goals and accomplishments is of greater relevance than at first glance, since the Subjunction of Abs to  $N_2$  in 275 to form the verb load is dependent on there being a <sup>All</sup><sub>Loc</sub> governed by  $N_2$ . Thus if we have only All, Subjunction must be blocked or we obtain the unacceptable 284b:

284a. John loaded the hay onto the cart

b. \*John loaded the hay towards the cart

Sentences with All in  $N_2$  seem to have the movement predication realised by carry, bear, or move.

One final point concerns the treatment of Abl in  $N_2$ . If we mark All as also Loc to show that it is the Goal case, the location actually reached, then it seems reasonable that we should also treat Abl as also marked as Loc. In each case this Loc will be interpreted as marking the fact that the object moved was actually at that point. Notice also that the presence of Loc on this Abl will also suffice to distinguish Source from Agent and Force.

### 5.3.2. Load and with

We must now turn to a consideration of the exact

structure of the Abs in  $N_2$  of 275, i.e. the governor of LOAD OF HAY. The simplest structure would involve treating the of-phrase as dependent on Abl in keeping with Anderson's analysis of quantifier constructions, (Anderson, 1973c and see also Miller, 1972b). However, to preserve the generalisation that with lexicalises  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$  we shall handle the of-phrase as an underlying Abs and follow Schwartz (Schwartz, 1972) in treating of, not only as a realisation of Abl in certain circumstances, but as the neutralisation of a case dependent on N, that is any N dependent on another N will require of unless other factors influence the matter. The view of the underlying case as Abs generalises to other cases. While load of hay does seem to be related to quantifier construction, the same cannot be said of what must underly the verb and the with-phrase in the following:

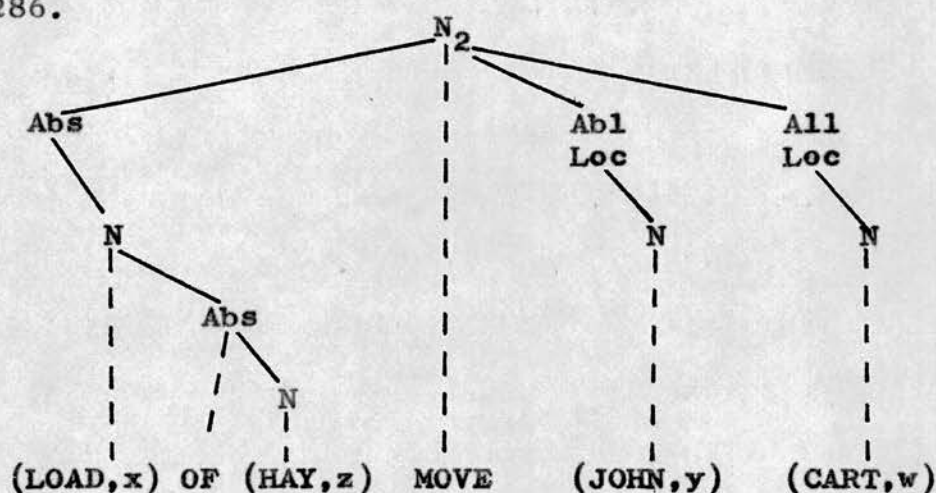
285a. John stocked the pool with fish (a stock of fish)

b. John oiled the bike with 3-in-one oil (oil of 3-in-one oil)

c. John buttered the bread with some new French butter (butter of some new French butter)

These seem to be more closely related to appositional structures. In fact, Schwartz relates the generalisation of of to its use in appositional constructions: thus the city, London becomes the city of London. Thus we assume that a fuller structure for  $N_2$  would be:

286.



Where, then, do we place the higher Loc into which Abs governing (HAY,z) raises to allow for the occurrence of with? What evidence is there for such a Loc?

We need to approach these questions from a discussion of verbs of movement in general. In Chapter 3, with respect to these verbs, we briefly mentioned the middle verbs of the classical Indo-European languages. The common factor to such verbs is that there seems to be some notion of reflexive inherent in them. Indeed in some languages the reflexiveness is overt in the morphology. Thus the action is usually subject-orientated: either the action takes place within the subject, laetor "rejoine", irascor "be angry", incendor "be on fire" etc. or it is in some way of benefit to the subject utor "use", fruor "benefit from". A further common factor is the frequency with which commentators on these verbs talk of locating the action in the subject or at least in his "sphere of interest" (Bally, 1926). Thus Gonda (Gonda, 1960):

"...the process was, so to say, limited to the sphere of the subject with regard to whom it took place."



Benveniste (Benveniste, 1966)

"Dans le moyen...le verbe indique un procès dont le sujet est le siège: le sujet est intérieur au proces."

"le sujet est le lieu du proces."

Diffloth (Diffloth, 1974) shows that Semai and French have a category of middle verbs with respect to body movements. Essentially with such verbs in both languages, the subject is not a true Agent and the object is not a true Goal. Further it is not possible to have an Instrument with such verbs. He follows Dowty (Dowty, 1971a, 1972b) in suggesting that the structure underlying such verbs of movement has no CAUSE predication, and distinguishes between sentences with body movement verbs which have Actors as subject and no CAUSE predication and sentences with CAUSE predications and Agents as subjects. Notice that the same distinction will allow for the absence of Instruments with Actors, since there is no CAUSE predication in which they could originate, (for suggestions along these lines see below and see also Wojcik 1976 for a similar derivation of Instrumentals). Notice, also, that Diffloth makes use of the notion of location of the action as a distinguishing property of body movement verbs,

Thus, if middle verbs have a subject which can be interpreted as the location of the action, then in that group of verbs which take an object, that object is marked with the ablative case in Latin, a case which we have seen bears some relation with the English preposition with. We also mentioned above (3.2.3.) the verbs in Old English which took

an object in the dative case and the verbs of Modern English related to them semantically which take a with-phrase:

287. John waved at Bill with his damaged hand

Haudry discusses similar verbs in Latin (Haudry, 1970 and see above 3.2.3.). He claims that the perlocative case i.e. the original case underlying the Latin instrumental case (what is normally called the ablative case form) originally expressed "across" or "through" with verbs of movement and "between" or "among" or "in the interior" with stative verbs (note that this parallels our use of Loc: with stative verbs it means interior or location, we have also related it to between when the primary is neutralised and with non-stative verbs it marks the Path and Instrument). In terms of this he suggests that the instrumental case in Latin can be used to mark the "objet effectué" as opposed to the "objet affecté" marked by the accusative case. He "clarifies" the use of the instrumental and what he means by "objet effectué" with the following terms: "l'objet déplacé" i.e. moved, "le siège du procès", "l'objet premier du verbe", "le constituant immédiat de ce verbe, par référence auquel le sens du verbe se définit", "l'objet immédiat du procès, son point d'application, son siège". Two points are of interest: firstly, Haudry is insistent on the object moved being the location of the movement, i.e. if X moves object Y, then the movement is actually located in Y: all of which implies a strongly Localist view of the world; to exist, every object must be in a place, movement can be viewed as an object and therefore must



be located. The second point is that the object defines the action of the verb: this could correspond to or be captured by the rule of Subjunction, that is, the relation between moving a load, putting a stock of fish putting a smear of paint somewhere etc. is such that it can be realised in one lexical item, the type of action is defined by the object moved. This generalises to instrumental verbs: thus doing something with a hammer, typically, involves an action of hammering. Before exploring this possibility further, however, we must consider whether there is evidence in English for movement being located in the object that moves.

This notion is rarely given overt, clear expression in English. We do find sentences like the following:

288. John has little movement <sup>of</sup> in his arm

meaning something like "John cannot move his arm very much".

However, there are other examples where the meaning of the sentence is closer to the assertion that the object moved:

289a. There has been a change in temperature

b. The temperature has changed

290a. There has been a rise in temperature

b. The temperature has risen

291a. There has been a significant movement in the situation

b. The situation has moved significantly

Notice that this notion of locating movement with respect to the object moved forms a parallel to a situation which has not been discussed overtly in Localist writings. Thus



if an object is in movement, then movement is in the object: if a person is in a state, one may also locate that state in the person by saying that he has that property. If someone goes into a state, then it is generally the case that something happened to him. The verb get is of interest here: its basic meaning appears to be "receive",

292. John got a book

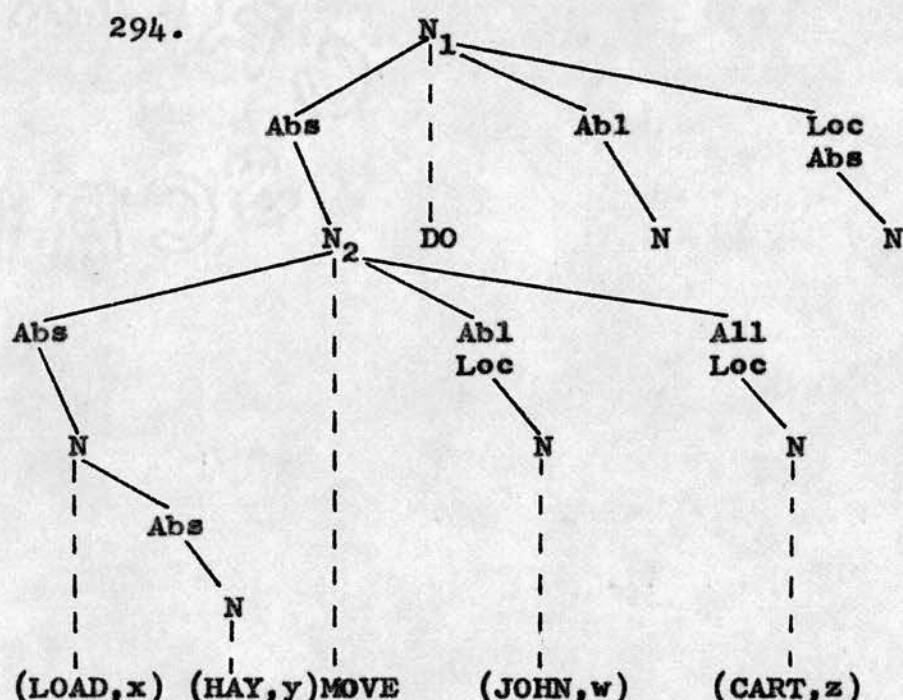
but if a book comes to John, then John also goes into a state, so we also find get used as an inchoative:

293. John got tired/angry/bitter

The situation with Abl is less clear and cannot be explored fully here, but there does seem to be a relation between perfective aspect, i.e. someone is from some action (Anderson, 1973b) and the Agent. Thus Georgian is an ergative language in the perfect tense only: in some classical Indo-European languages the subject of a perfect tense verb is marked by the genitive (see Allen, 1964) and, probably of more interest, in French and earlier forms of English the auxiliary of perfect tense with a transitive verb is avoir and have, as opposed to some form of the verb etre or be with intransitive verbs: perhaps English and French are more ergative than linguists admit (for the ergativity of English nominalisations see Anderson, 1976).

Thus the final version of the structure underlying 274 will be 294 (see over). We have already modified the rule of Subjunction so that N cannot subjoin if it governs a Boss-Case. The relation is not perfect, but this has a

bearing on Seuren's constraint on Predicate-Raising in terms of referential expressions and Keenan's Functional Principle (Seuren, 1974b, Keenan, 1974 see Chapter 4 above also). Keenan gives a procedure for evaluating a Functional Expression or understanding its reference. This crucially



involves independent identification of the reference of the argument in that expression. Thus, he gives as an example the Functional Expression the inside of the bottle, which has a function the inside and the argument of the bottle. To identify the reference of the whole, we need to know the reference of the argument. We may modify this to a general statement that any N which has an argument dependent on it which is a Boss-Case is referential. Thus, in the above structure LOAD is referential until it no longer governs a Boss-Case. Once it governs a variable, LOAD is no longer referential and may subjoin.

We say that the relationship is not perfect, in that

Keenan identifies arguments of noun phrases such as the inside of the bottle with the subject of verbs, but we cannot generalise the criterion for Referential Expressions to verbs in this way in our grammar, since, as we have seen above in Chapter 4, it is not always the presence of a subject, i.e. highest ranked case on the case hierarchy which is a Boss-Case which blocks Subjunction, and alternatively we do find cases where the subject is a Boss-Case and the predicate subjoins. In fact, with predicates, the relevant notion for defining Referential Expressions would be Boss-Noun governed by a case which occurs higher in the structure. The absence of a perfect relationship is not crucial, but the fact that there seems to be some parallel between the two proposals lends some support to our own.

Consider, then, the derivation of 294. Abs, governing HAY will raise into  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$ . On the  $N_2$  cycle,  $\begin{smallmatrix} \text{Abl} \\ \text{Loc} \end{smallmatrix}$  will raise into Abl. With respect to Lexicalisation, Abs, governing LOAD will subjoin to  $N_2$ , which in turn subjoins to  $N_1$  to produce the verb load. All variables w will be blocked from lexicalisation since they are in the scope of the "subject" John governed by the highest case in the case hierarchy, namely  $\begin{smallmatrix} \text{Abs} \\ \text{Abl} \end{smallmatrix}$  of the aspect predication. This will produce a structure with  $\begin{smallmatrix} \text{All} \\ \text{Loc} \end{smallmatrix}$  and  $\begin{smallmatrix} \text{All} \\ \text{Abs} \end{smallmatrix}$  dependent on  $N_1$  and we now need to modify the rule of Linearisation. Thus just as any case with Abs as the governing element is made the subject, i.e.  $\begin{smallmatrix} \text{Abs} \\ \text{Abl} \end{smallmatrix}$  of the aspect predication, we can assume that the presence of Abs is also crucial for identifying the "object" of the sentence: thus we propose that the object



is to be identified with that complex case containing Abs whose governing case is highest ranked on the case hierarchy. In the case of 294  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$  governing hay is the only case fulfilling the condition of containing Abs, and so is made the object. We also assume that it is the presence of Abs which governs non-lexicalisation of the case relation. This derivation will produce the sentence under discussion, namely 274:

274. John loaded hay onto the cart

The identification of objects with the presence of Abs will also account for the relation between subjects of embedded sentences and objects of transitive verbs. Thus taking the example of

295. John killed Bill

in terms of our proposals in the preceding chapter, Bill is governed by  $\begin{smallmatrix} \text{All} \\ \text{Abs} \end{smallmatrix}$  and so is the object of the verb and also appears in a lower predication as a variable governed by Abs, i.e. the "subject" of the predication of dying.

There is an alternative derivation for 294 which involves not raising the Abs governing HAY into the higher  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$ . This would allow the Abs governing LOAD to raise into this higher case and since this would then be a Referential Expression, i.e. governing a Boss-Case Subjunction is blocked. This will be responsible for the sentence:

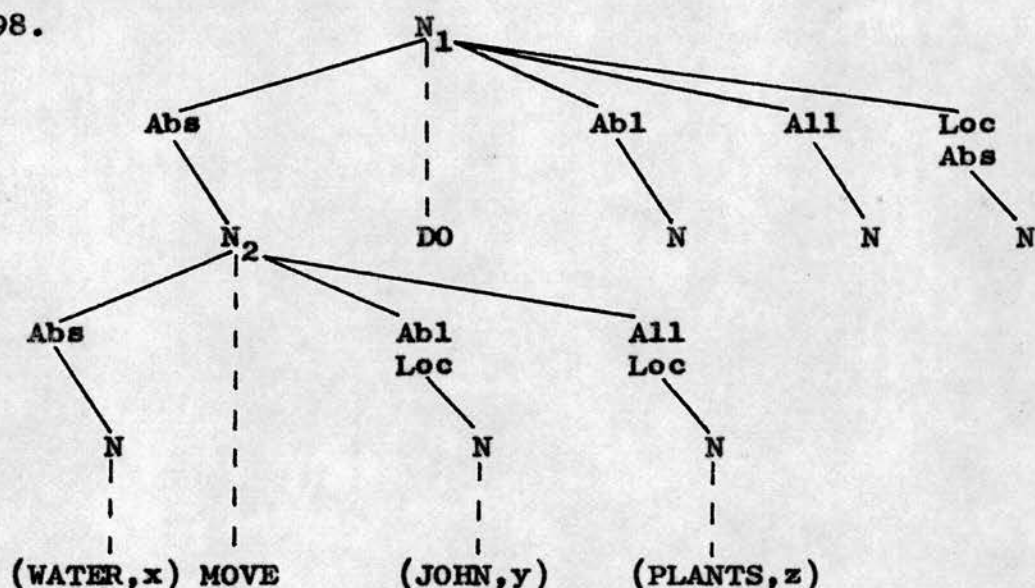
296. John put a load of hay onto the cart

We are assuming here that DO+MOVE is lexicalised as put in the absence of All. We noted above that with the verb give the recipient benefits or is affected by the object received.

Thus we give water to plants but we do not give loads of hay onto carts. We can handle this situation by making use of a general property of the case All, namely that it is the case of purpose or benefit. Thus the structure for 297.

297. John gave some water to the plants  
would be the following:

298.



We add one further specification to the rule of Raising, to the effect that if there is a complex case, then the governed or dominated case, i.e. Abs in the situation of  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$  must at some point govern Raising. Thus the only well-formed derivation will be one in which Abs of  $N_2$  raises into  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$ . Abl and  $\begin{smallmatrix} \text{All} \\ \text{Loc} \end{smallmatrix}$  of  $N_2$  will also raise into Abl and All respectively of  $N_1$  and Linearisation will place  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$  in post-verbal position. Notice that if Abs of  $N_2$  did not raise then it would subjoin to  $N_2$  to produce the unacceptable:

299. \*John watered to the plants

We can now begin to extend this analysis to other sentence types. Notice firstly that the presence of All in

$N_2$  as opposed to  $\begin{matrix} \text{All} \\ \text{Loc} \end{matrix}$  after Subjunction applies to  $N_2$  of 294 will account for the fact that we have the preposition to with give and the forms on(to), in(to) with put. Thus we must now extend the grammar to account for device sentences, and since we have assigned a structure to 297, we must also consider how to handle Dative Movement, that is the supposed rule which derives the following from 297:

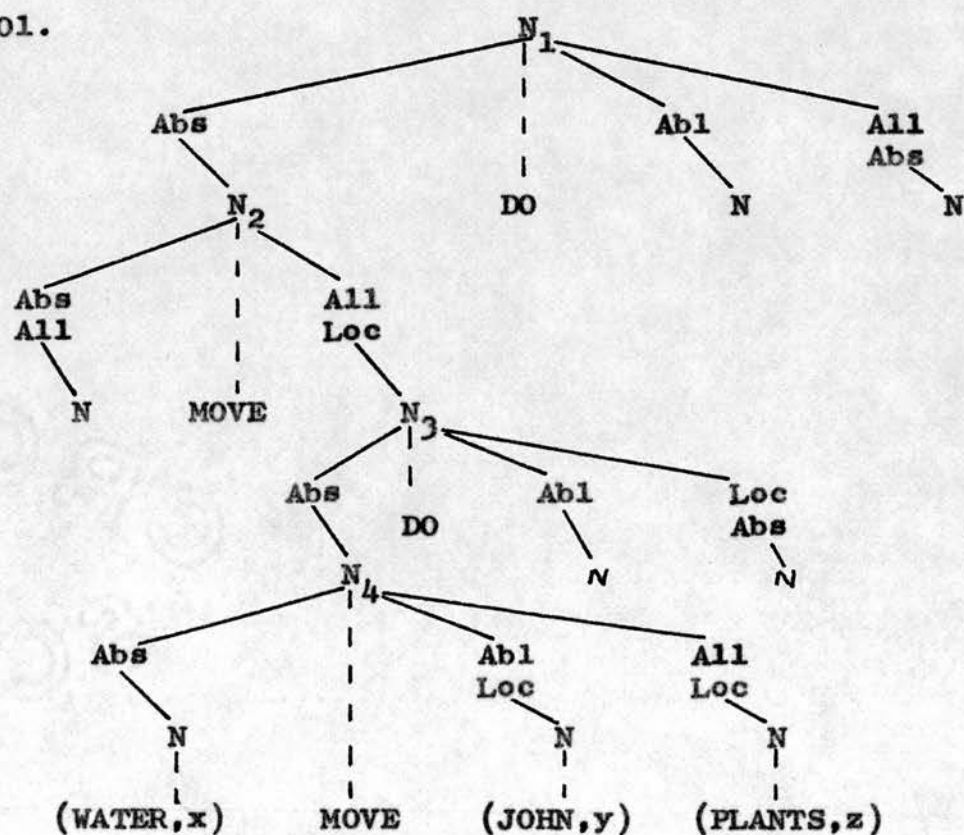
300. John gave the plants some water  
by inverting the direct and indirect objects and deleting the preposition from the latter. We shall see that the answer to this last question will, with a slight modification, provide a means of handling device sentences, thus showing the parallels between the two sentence types and their differences.

A full discussion of Dative Movement is to be found in Green (Green, 1974) and a further discussion and demonstration that the existence of such a rule is doubtful is given by Anderson (Anderson, 1976a). Here we can only take Anderson's findings and show how they can be accommodated in our grammar. The important difference between the standard Dative Movement solution and that proposed by Anderson reflects differences in the grammar. In the standard transformational generative view, given that there is only one level of embedding in both 297 and 300, different orderings require a special rule to re-order elements. If this re-ordering rule is also correlated with a change in meaning, as, in fact, Dative Movement is in certain circumstances (see Green, op. cit.), then we supposedly might have an argument against the



Standard Theory and in favour of the Extended Standard Theory. However, allowing several levels of embedding and quasi-predications allows re-ordering to be handled by the Raising rule, and this will quite naturally be associated with different underlying structures and hence with potentially different meanings. The crucial point in Anderson's proposed treatment of 300 is that all the relevant facts concerned with Dative Movement can be handled by positing a further predication in the structure of 300 as opposed to 297. This will be a Receive-predication in Anderson's terms. The effect of this predication will be to add to the meaning of the structure the fact that the object dependent on Abs of this predication receives the benefits of the action or event in the lower predication and that it went into a state defined by that action or event. The structure, then, will be the following:

301.



In the above structure  $N_3$  and all that it governs corresponds to structure 294,  $N_2$  corresponds to Anderson's Receive-predication, i.e. the fact that something went into a state and  $N_1$  shows that some Agent operated on some Patient. The derivation proceeds as follows: on the  $N_4$  cycle, Abs raises into  $\text{Loc}$ , Abl raises into Abl and  $\text{All}$  into  $\text{Abs}$  of  $N_2$ .

Notice that in principle there is nothing to stop us having a further All in  $N_3$  into which  $\text{All}$  raises and which subsequently raises into  $\text{Abs}$ . On the  $N_3$  cycle Abl again raises into Abl and on the  $N_2$  cycle  $\text{Abs}$  raises into the  $\text{All}$  of  $N_1$ .

We must now turn to a final consideration of the notions of subject and object and highest ranked case. We suggested that this latter was relevant to the selection of subjects, and that objects are related to the case Abs. However, it is possible to unify subjects and objects in terms of the common property of presence of Abs. This situation parallels that in Anderson's grammar (Anderson, 1971a) where Nom plays a "grammatical" role in the selection of subjects and objects. Thus we can eliminate the notions of subject and object from the grammar completely and refer instead to the presence of Abs. Thus the "subject" of the sentence will always be that Abs which appears in the aspect predication, but this Abs may itself be marked by some other case. The object is defined by reference to the highest ranked case on the hierarchy which is also marked as Abs. Thus subject and object in our grammar are, in fact converses, in the one we have Abs marked by the highest ranked case, i.e.  $\text{Abs}_K$  and in the other highest ranked case marked by Abs,  $\text{Abs}_K$ .

Such an approach, making use of information already present in the grammar, removes the necessity of marking the relevant cases in some way as subject or object or even deleting the case of the subject and object as does Anderson (Anderson, 1971a, 1976). In the one approach we are importing arbitrary markers for information already present, in the other we are deleting potentially relevant information, that is, if we delete  $\begin{smallmatrix} All \\ Abs \end{smallmatrix}$  from  $N_1$  since it governs the noun phrase which is the object, then we are losing the factor which we have suggested is responsible for the lexicalisation of MOVE as give and not put, namely the All.

We assume, then, that we simply have the rules of Lexicalisation, so that one sub-set of these rules, namely the rules of Strict Lexicalisation, will refer to case complexes with Abs as the governing case, which we could call Abs-K or "subjects", and case complexes with Abs as the governed case, which we could call K-Abs or "objects". Notice that in referring to the presence of Abs as the crucial property we are rejecting the claim of Relational Grammar (Postal and Perlmutter, forthcoming), in that we are claiming that subject and object are not notions of Linguistic Theory and are not necessary properties of Language or of linguistic descriptions. We may use the terms as a convenient way of referring to other phenomena, but this is a convention and not necessarily part of the theory, these are not primitives of the theory as are the cases.

Thus, consider how the rules of Lexicalisation apply to 301. On the  $N_4$  and  $\begin{smallmatrix} Abl \\ Loc \end{smallmatrix}$  and  $\begin{smallmatrix} All \\ Loc \end{smallmatrix}$  are not lexicalised, being



coreferential with a "subject" and "object" respectively. On the  $N_3$  cycle, Abs subjoins to  $N_3$ , Abl is blocked from lexicalising and  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$  fulfils the condition for being selected as "object", so that there is no prepositional realisation of the case and the dependent noun is lexicalised as water. On the  $N_2$  cycle,  $\begin{smallmatrix} \text{All} \\ \text{Loc} \end{smallmatrix}$  subjoins and  $\begin{smallmatrix} \text{Abs} \\ \text{All} \end{smallmatrix}$  is blocked from lexicalising. Subjunction applies again on the  $N_1$  cycle and Abl is not lexicalised.  $\begin{smallmatrix} \text{All} \\ \text{Abs} \end{smallmatrix}$  is selected as "object" of the verb which means that its governed noun is placed in post-verbal position and the case itself is blocked from lexicalisation. Notice that, in each application of Subjunction,  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$  is carried along and on the  $N_1$  cycle it is ordered in sentence-final position, that fact that it was "object" of the  $N_3$  predication accounting for the fact that there is no preposition in the final form of the sentence, namely 300. Notice that there is an alternative derivation in which  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$  subjoins to  $N_3$  to produce the verb water, although it is also possible that in the underlying structure of the sentence with the verb water, there is no  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$  of  $N_3$  so that it is the Abs of  $N_4$  governing the N water which subjoins to produce the verb.

How, then do we account for the device sentence parallelling 274:

274. John loaded hay onto the cart

273. John loaded the cart with hay

The only difference between the underlying structure of 273 and 300 will be the presence of  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$  in the former dependent on  $N_1$  and its absence in the latter. Thus the structure



not have controlled Raising. We have the same result if, on the  $N_4$  cycle, Abs governing HAY raises into  $\text{Loc}_{\text{Abs}}$  since then there is no Abs which can raise into the  $\text{Loc}_{\text{Abs}}$  of  $N_1$ . The rest of the derivation follows that of 301, except that on the  $N_3$  cycle  $\text{Loc}_{\text{Abs}}$  governing LOAD can subjoin to  $N_3$  since it now governs a variable and not a Boss-Case. This will produce the verb load and the  $\text{Loc}_{\text{Abs}}$  of  $N_1$  will lexicalise as with. We can associate the holistic interpretation of device sentences with the presence of  $N_2$ .

We are now in a position to characterise the difference between internal and external objects and complete and incomplete verbs. External objects of a verb will be those which are governed by  $\text{All}_{\text{Abs}}$ , they function as the Goal or recipient of the action, while internal objects will be those governed by  $\text{Loc}_{\text{Abs}}$ , being typically the object which moves and the actual location of that movement. Complete and incomplete verbs pair with internal and external objects respectively, and one of the major factors seems to be the presence of a CAUSE predication. Complete and incomplete verbs differ in the possibility of the occurrence of a by-clause describing the manner of performing the action, and these by-clauses we have associated with the raising of the Abl of a CAUSE predication into  $\text{Loc}_{\text{Abl}}$ . Thus, if we were to make the presence of a CAUSE predication the defining factor for incomplete verbs, then 274, 300 and 273 would be complete verbs, but, in fact, only 300 does not allow a by-clause, while being fully acceptable.

303a. John loaded the cart with hay by switching on  
the machines



303b. John loaded hay onto the cart by switching on the machine

c. ?John gave the plants some water by opening the valve

This suggests that there may be a CAUSE predication in the underlying structure of such sentences or that we should find some alternative source for by-clauses. We return to this question briefly below.

In fact, we obtain a better definition of complete verbs in terms of the presence of only an internal object but even this is not absolute. The only true complete verbs will be those which describe body movement, and there seems, then, to be a hierarchy of preference. Locative sentences seem to prefer complete verbs, which in our terms seems to correlate with the presence of only one DO predication and that one containing <sup>Loc</sup><sub>Abs</sub>: device sentences which contain two DO predications come next on the hierarchy and seem to be neutral between complete and incomplete verbs, while true incomplete verbs have an underlying structure which contains two DO predications, the lower one of which occurs in a CAUSE predication.

Although we cannot explore the possibilities fully here, we might be able to extend the relation between by-clauses and CAUSE predications to instrumental with. We observed above that in device sentences the with-phrase does not identify a "true" instrumental and this fact we could associate with the absence of a CAUSE predication, that is all "true" instruments originate in the Abl-predication of a CAUSE predication.

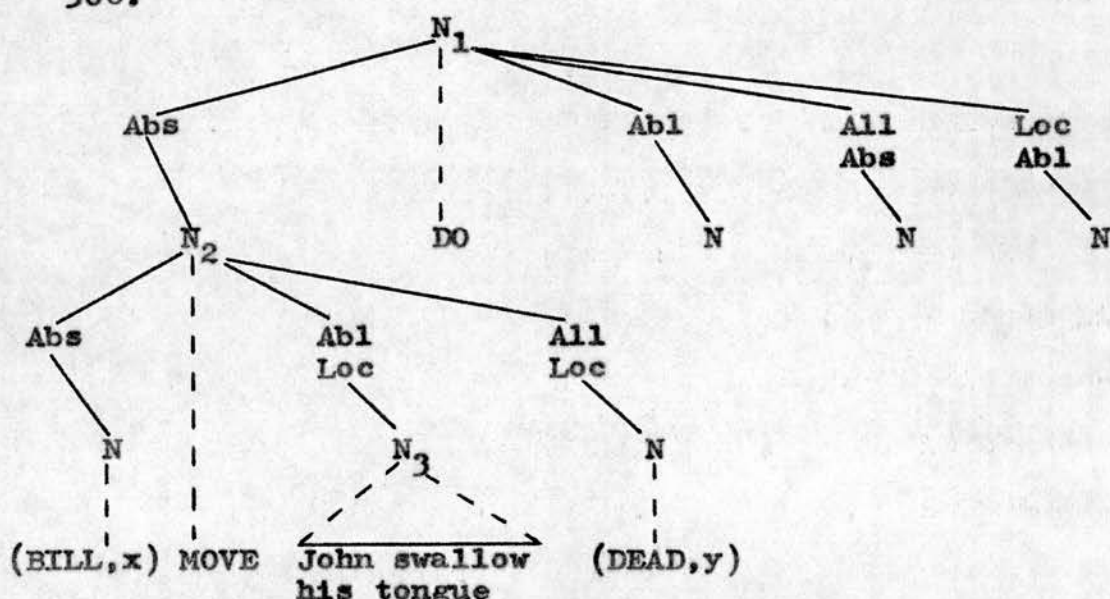
Our proposals for the treatment of locative and device sentences also allow us to make clearer the nature of CAUSE predications. In principle we could have allowed locative sentences to be basic and then derive device sentences from them via an added CAUSE predication: that is, we could paraphrase the underlying structure of a device sentence like John loaded the cart with hay in terms like "John did something to the cart such that his loading hay onto it caused it to become full/loaded with hay". However, this brings the time factor into play. We stated above that CAUSE relates to events, both of which can have different time elements. Thus a treatment of device sentences in terms of a CAUSE predication makes the prediction that we are dealing with two different events and further that these events could be temporally distinct, that is, a sentence like 304 should be acceptable:

304. \*John loaded the cart with hay this afternoon by loading hay onto it this morning

The fact that it is not acceptable suggests that we should block the possibility of a CAUSE predication occurring in the underlying structure of device sentences. However, one point which comes out of this discussion is that it may be possible to give an alternative treatment of all the sentences analysed in Chapter 4, one in which there is no CAUSE predication at all in lexical causative verbs. Thus, for example, the structure of

305. John killed Bill by swallowing his tongue  
would be the following:

306.



The derivation is straightforward: on the  $N_3$  cycle Abl governing JOHN raises into Abl, on the  $N_2$  cycle Abs raises into All Abs and Abl into Loc Abl. DEAD subjoins to  $N_2$  which in turn subjoins to  $N_1$  to lexicalise as kill. Certainly such a derivation would work and would lead to other modifications in the grammar, some of which are not fully acceptable. The major problem would be that under our first analysis the grammar shows directly the relationship between lexical and decomposed causatives in terms of similar underlying structures, while under the second proposal any such relationship would have to be handled elsewhere in the grammar by some specific rules to that effect.

This problem leads on to a second in terms of lexicalisation: notice that the second proposal does not allow any lexical relation between a surface element cause and lexical causatives, that is, it must treat as a mysterious accident of language the fact that, in some languages, Japanese being



one (see Shibatani, 1973a), forms which behave as lexical causatives contain an element which is related to the surface realisation of CAUSE (i.e. the suffix -ase in Japanese). This must remain an accident since there is no occurrence of CAUSE in the underlying structure.

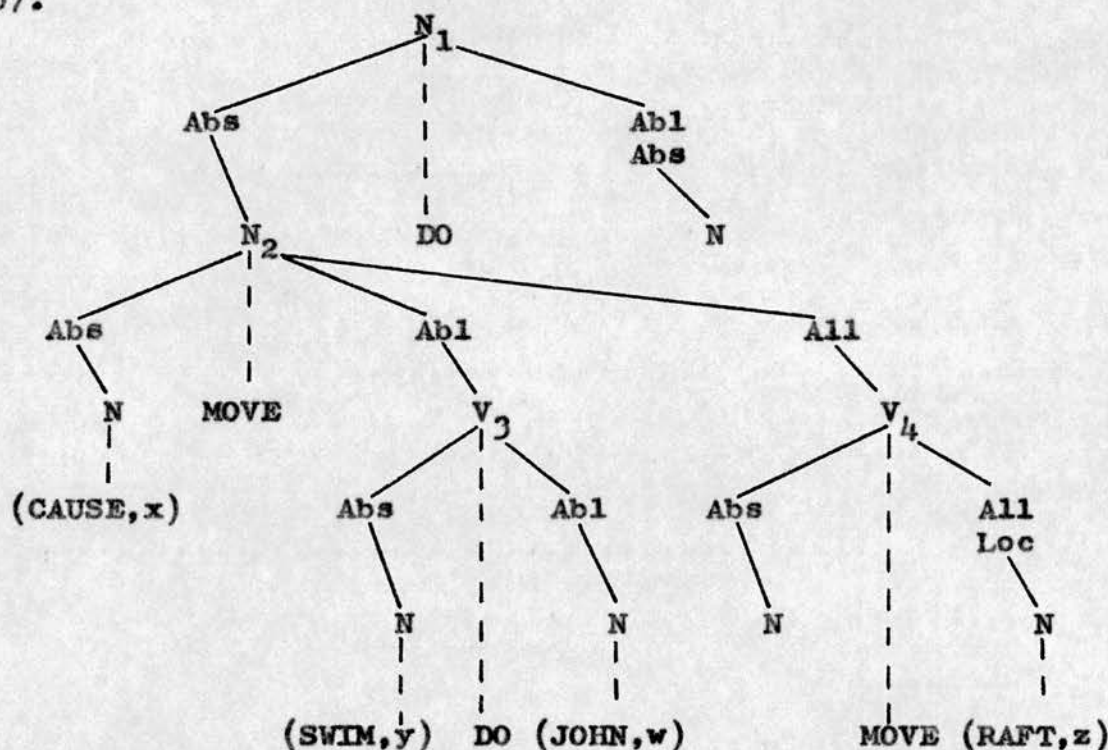
A second problem involves the effect of DO on lexicalisation: thus in 306 we find DO+DEAD lexicalising as kill, whereas the DO of the purpose predication, assuming that there is one there, has no effect on lexicalisation, that is, in this respect, we have two types of DO: under our first analysis only CAUSE has an effect on lexicalisation, while no occurrence of DO can be of influence in the matter. We do not claim that these points argue absolutely against the second analysis, rather they show that the first analysis is, at this stage, preferable in the light of the present state of analysis. Thus, we assume that CAUSE occurs in the underlying structures of all causative verbs which allow of an analysis into two distinct events.

One point which is clarified by structure 306, however, is the occurrence of by-clauses in 303. Thus, these by-clauses may well originate as the <sup>Abl</sup><sub>Loc</sub> which could potentially occur in the N<sub>2</sub> predication in structures like 302, that is, we are dealing with a structure underlying 303a which we could paraphrase as "The cart moved from John's switching on the machine to a state defined by John's loading hay onto the cart".

One final point before leaving the topic of CAUSE relates to Japanese and a possible interpretation of a

structure in English. So far we have not had a structure in which the Abl of the Abl-predication in a CAUSE predication is coreferential with the Abs in the All-predication, which would read as some Agent's doing something caused that Agent to do something else. In the light of our discussion of CAUSE and its necessarily referring to two events, it is uncertain whether such a structure would be possible. However, consider a structure like 307.

307.



We suggest that such a structure might underly

308. John swam (himself) to the raft

$N_3$  is the predication of swimming where Abs subjoins to  $N_3$  to finally produce the verb swim. This seems to be the minimum required to handle such both movement verbs, but we cannot discuss this question fully here. On the  $N_2$  Abs, All and Abl subjoin to  $N_2$ . Notice that himself is optional

here, but the interesting thing is that the conditions for lexicalisation as a reflexive form here are exactly the same as those proposed for Japanese, namely the case which is highest on the case hierarchy governs a coreferential N which itself is highest on the case hierarchy, i.e. subjects reflexivise subjects. Thus it seems that no Clause Mate Condition is necessary for reflexivisation in English, at least in this case: further study may lead to a revision of the matter. The other point is that it is difficult to interpret CAUSE as a true causative element here, rather, it is closer to a notion of "enable" that is swimming enabled John to go to the raft. It is of interest here, however, to note that, in Japanese, the surface element corresponding to English cause can also mean "allow" or "enable" (Shibatani, op. cit.). This analysis is only tentative, in that it may be that with such verbs as swim, like locative and device sentences, there is no CAUSE predication. Certainly we need further study of CAUSE to establish under what conditions we must allow for such a predication. The principle of temporal simultaneity proposed for excluding this predication from device sentences would also exclude it from 308.

In fact, this discussion leads to a more general question of importance which is not really posed in works cast within the Chomskyan paradigm (where we place Localist Case grammar), namely, how do we know what the underlying structure is? The question is not so crucial for those grammars which do not have a rich underlying structure, for example, those of



the Standard Theory: but the richer we allow our structures to be, in terms of layers of embedding of sentences or of dependency of predications, then the more crucial it becomes to motivate the structures proposed, rather than relying on the fact that they "work". Thus, while proponents of Extended Standard Theory with a "poor" underlying structure restrict the grammar by imposing constraints on rules (Chomsky, 1973, 1975), Localist Case grammar, having few rules which correspond to transformations or interpretation rules, must restrict the "richness" of the base, by having a small set of possible predications and restrictions on their organisation into hierarchies of predications. We shall make some tentative suggestions on this subject in the final chapter.

However, such restrictions on the type of underlying structure will not wholly suffice in the case of the CAUSE predication: what we need here relates to the question of semantic adequacy, that is, is the structure assigned to a particular sentence sufficient to capture the meaning of that sentence? This is a question which is generally ignored by followers of the Chomskyan paradigm and is of great importance to those who make explicit claims about incorporating semantics into their descriptions. Thus, if, like many of the Generative Semanticists, a linguist is going to claim that, in positing some abstract element in the deep structure to account for some syntactic fact of distribution, one is moving "closer to the semantics" (Postal, 1970b), then we must have some clear idea of what

the semantics is like, that is, these abstract elements must meet conditions of semantic adequacy besides allowing the derivation of the required surface structure. Yet it is clear to see why the question is not asked: it is difficult to see what a solution would look like: how do we argue or test for the semantic adequacy of a structure? In concrete terms, do we need a CAUSE predication in the underlying structure of device sentences on purely semantic grounds? In terms of obtaining the correct surface structure via a set of rules of general applicability, we can either have the CAUSE predication or not. Only the semantics can solve the question, and we are, at the moment, unable to approach this question.

#### 5.4. Briefly on other with-phrases

In section 5.3. we discussed the CAUSE predication and its relation to activity and accomplishment sentences and to internal and external objects, the areas which we delimited as the scope of this chapter in the conclusion to the preceding chapter. We also mentioned some of the problems which remain relating to this predication. Certainly there are many areas of the grammar which need to be extended further and we do not suggest that our proposals so far are fully adequate: they exist as a framework in which certain questions find a solution and which may serve to guide other studies.

However, in section 5.2. we covered most of the uses of the preposition with, without making any proposals for its treatment in our grammar. In this last section we shall

make some tentative analyses of three of these sentence types. This has three main aims: firstly to show that with deserves a much more extended study than is possible here, secondly to show how the grammar may work (and may not work) for this area of English and thirdly to serve as a basis for discussion of further problems related to those involved with CAUSE predications, namely the goal of further studies which are necessary.

The three uses which we shall be concerned with are Reciprocal, i.e. with symmetric verbs, the Comitative and the use after verbs of emotion. We split Reciprocal and Comitative since we need different structures for them. Notice also that the Comitative use of with appears to be historically prior to the Reciprocal (Mustanoja, 1960). Thus the sentences considered will be:

309. John agreed with Bill

310. John left with Bill

311. John is angry with Bill

Sentence 309 has the related sentence:

312. There was an agreement between John and Bill

and we have associated the preposition between with the neutralisation of Source and Goal, that is, as a means of not specifying which of the NPs denotes the primary. Thus a strong possibility is that we have a structure involving a MOVE predication underlying 309, with Abs governing AGREEMENT, Ab1, JOHN and A11, BILL. BILL will be identified as the primary, i.e. the element with respect to which the agreement is identified, on the basis of being governed by

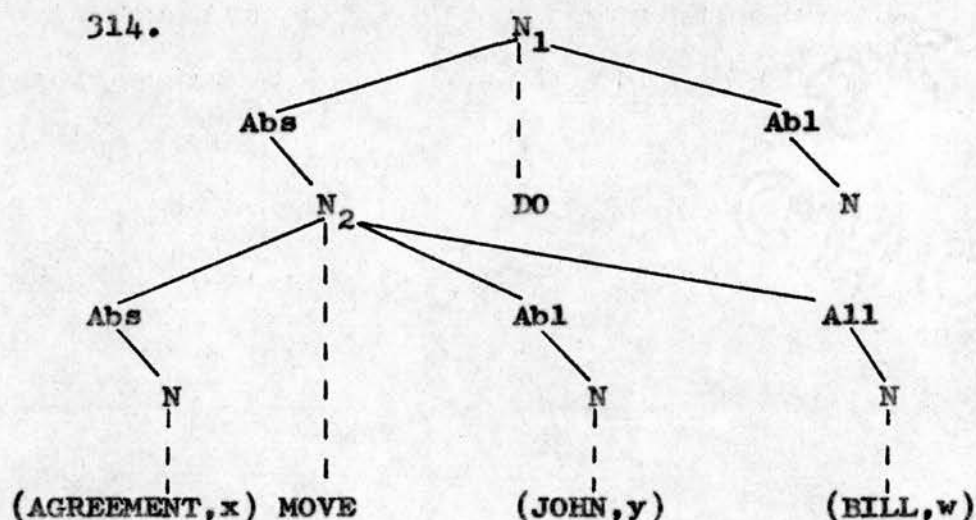


ALL, just as ALL selects the primary in the following, i.e. is realised by the preposition to:

313a. John joined the wing to the fuselage

b. John is related to Bill

Thus the underlying structure for 309 would be 314:



Raising of Abl into the higher Abl and Subjunction applying to AGREEMENT and then to Abs of  $N_1$  will produce 309, except that there is no account of why with lexicalises All.

Notice that we assume that it is an All, on the basis that there is no reason to assume an added Loc in terms of its surface manifestation and that this also is a means of capturing abstract movement of things like relations, agreements, and, as we shall see below, emotions.

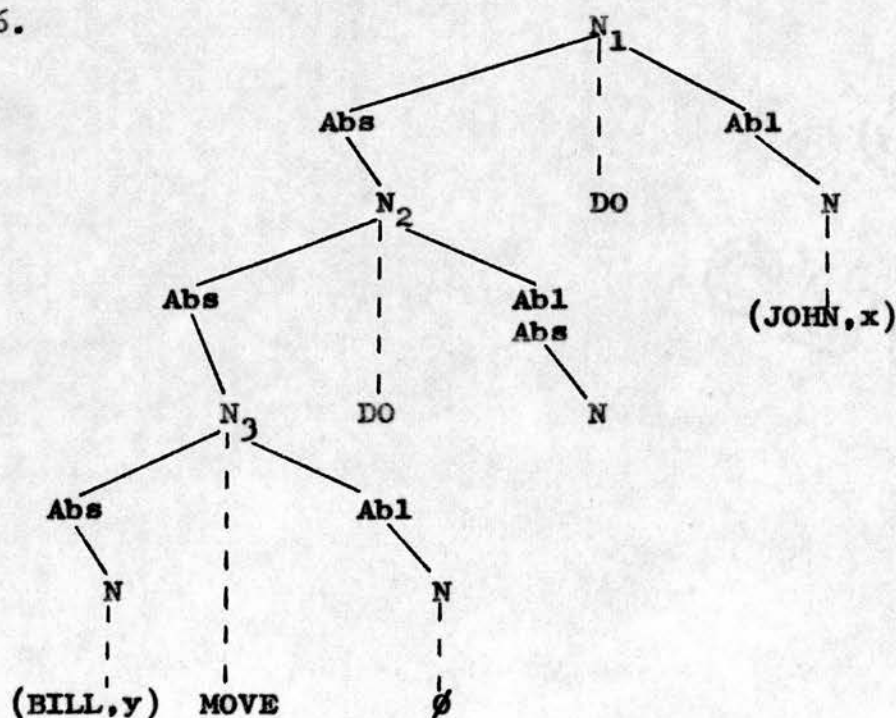
There is an alternative solution, however, which involves the argument from the related form with between. Thus we suggested above that between may be the lexicalisation of Loc when conjoined nouns are dependent on it in certain predication. Thus  $N_2$  might be a simple stative predication in the above structure, with Abs governing AGREEMENT and a simple LOC governing BILL, the Abl of  $N_1$

being specified as JOHN, In such a structure, with would lexicalise Loc, which would make it look more like the lexicalisation of <sup>Loc</sup>Abs, but again there are other factors involved and we turn to these below.

Leaving, for the moment, the question of deciding between 314 and the alternative just given, what is the structure of 310? We know that there are two Agents involved, John and Bill, and further that John performed some act of leaving which can be defined with respect to the act of leaving done by Bill, i.e. John was in the same act of leaving as Bill, just as in

315. Your keys are with your wallet involves two types of entity being in the same place. Thus the structure would be something like the following for 310:

316.



Abs of  $N_3$  raises into <sup>Abl</sup>Abs of  $N_2$ . Abl subjoins to  $N_3$  which

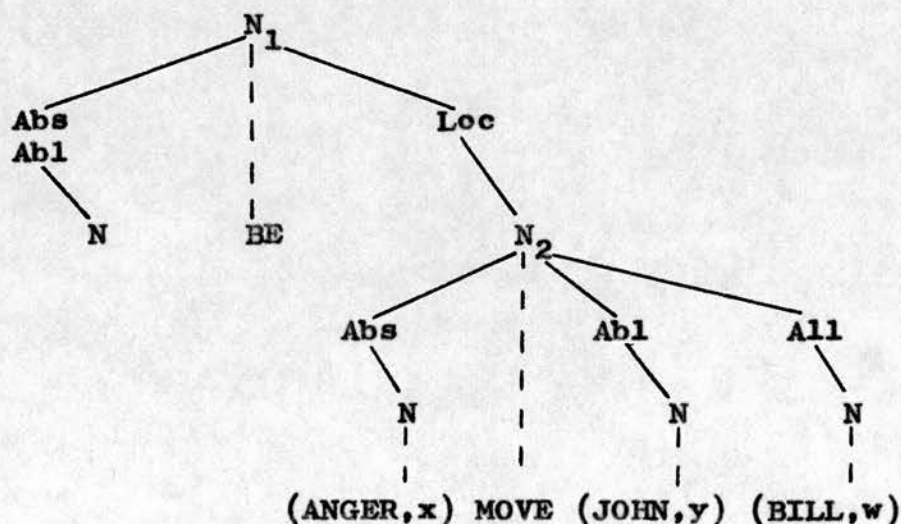
brings about the lexicalisation of  $N_3$  as leave.  $N_3$  subjoins to  $N_2$ , and  $N_2$  to  $N_1$ . In this case we find that with lexicalises  $\begin{smallmatrix} Abl \\ Abs \end{smallmatrix}$ , thus making it possible that it is the presence of Abs on any case except All which is responsible for the lexicalisation of that complex case as with.

The structure for 311, again, fails to produce a  $\begin{smallmatrix} Loc \\ Abs \end{smallmatrix}$  underlying the preposition with. Thus if we can identify

317. John is angry at Bill

with 311, such that at and with are alternative realisations of the same case then we can argue from at to the presence of All in the underlying structure. Notice, firstly, that at does not seem to mark an achieved goal, that is, with verbs of movement it marks the Adversative, the object aimed at but not necessarily attained, which suggests that it lexicalises All besides the Loc of stative predications. Thus it is possible that with predicates like be angry, at and with are alternative lexicalisations of All, the structure being that in 318:

318.



Abl raises into  $\begin{smallmatrix} Abs \\ Abl \end{smallmatrix}$ , and Abs subjoins to  $N_2$  to lexicalise



as angry. Again, as in 314, with lexicalises All.

There are many possible conclusions to be drawn from these brief proposals. Amongst the more unacceptable in the light of the brevity of the discussion would be that Localist Case grammar cannot handle the preposition with, but put in a more acceptable form we could say that, at the moment, this appears to be the case, in that some further factors than just case relations seem to condition the appearance of with. Alternatively we might reject the proposals so far for the treatment of with as the lexicalisation of <sup>Loc</sup><sub>Abs</sub>, claiming that with lexicalises only one case and that so far in this study we have not found exactly what case that might be. However, whatever the actual situation might be, it is clear that more must be done about this preposition to achieve a satisfactory description. Immediate questions concern the possible synonymy of angry at and angry with and the relation between the prepositions between and with which would clarify the situation concerning 309 and 311. This latter question also bears on the one raised at the end of the last section, namely how do we know what the underlying structure of a sentence should be? The grammar may provide two different structures which will produce the same structure, as in the case of 309, but does this mean that the sentence is ambiguous? Certainly such a situation may not be totally unacceptable for device sentences, but it is not clear whether this could be the case for 309.

Another approach to the problems surrounding with

would be to preserve both hypotheses adopted so far, namely that there is only one case underlying this preposition and that that is  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$ . It just happens that we have not looked closely enough at the data to find the correct structures. Unfortunately, without some strong constraints on the form of underlying structures, there is, at the moment nothing specific to prevent any structure being proposed which will contain  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$  and produce the required surface structure. Again, we return to the question of semantic adequacy as one means of constraining such structures.

The most neutral position at the moment and the one which is potentially the most fruitful in terms of further research would be to accept things as they are, that is, with lexicalises the case  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$  as its basic role but can also lexicalise other cases. The task, then, is to search for the other factors which condition the lexicalisation of cases. There are two possible approaches to this question: firstly we can make the assumption that these factors concern surface structure targets, that is, in the absence of other factors, English has a preferred structure in which a second object to the verb is introduced by the preposition with. There are two possible reasons for doubting the usefulness of this approach: firstly there will almost certainly be many factors which prevent the occurrence of with and we should then be faced with the task of accounting for each of these factors, and secondly, we would be attributing a certain autonomy to surface structure: assuming that surface structure is a means of embodying a message in its

most convenient form, why should language allow the "tool" to condition its own structure, in other words, why does language have target structures? It would appear simpler to avoid the notion of targets, the account for the similarity in patterning of sentences to other factors concerning the underlying structure and the rules which operate on it.

The second approach, which seems more acceptable perhaps, would involve reference to semantic factors, that is, prepositions realise not only case relations but other semantic properties associated with deep structures. This would be more acceptable since it would not involve any new machinery like target structures. Thus with seems also to be conditioned by the notion of primary, as already observed. But notice that the notion of primary does not seem to be relevant to its use after verbs of emotion and in this respect the preposition seems to be more like at in having a basic locative function and also a goal marking role. This fact must also be taken into account in a full analysis of with, as must the fact that historically it derives from two distinct prepositions, so that there is always the possibility that we are dealing, in fact, with two different prepositions which are accidentally the same in form.

Two general points come out of this discussion. Firstly a case grammar treatment will probably continue the trend to ignore the Saussurean dichotomy between synchronic and diachronic studies. The history of a language



may well be more relevant to a synchronic study than Neo-Saussureans will allow, especially if we expect more than simple description from our grammar. Secondly, it is now probably time to return to a pre-Fillmorean approach to case studies. Fillmore (Fillmore, 1971a) stated that he wished to reverse the "given"- "to be explained" relation, that is, instead of taking the morphology as "given" and the case uses to be explained, he wished to concentrate on deep structure cases. But assuming an unmotivated list of cases, as he does, leaves case grammar with no firm basis, the basis shifts according to which set of cases one adopts. Thus, given that Localist Case Grammar does give some firm set of possible cases as "given" and also some ideas on the role of these cases in the underlying structure, it may now be advisable to look more closely at the relation between cases and their realisation in prepositional form or as affixes. This will also mean testing the adequacy of our underlying structures, in that we can ask whether they are sufficient to account for prepositional occurrence and, if not, how and where they fail.

## CHAPTER 6

## DO, do and Other Concluding Matters

In this final chapter we shall look at the form of the grammar which we have proposed so far and try to make some general statements about its form and function. Two questions in particular will be our concern; firstly, what is the relation between the predicate DO and the surface element do, and secondly what constraints can be placed on deep structures which, as we suggested in the preceding chapter, will help us to restrict the possible underlying structure of any sentence.

## 6.1. DO and Its Manifestations

Several linguists have proposed that Agentive sentences have a DO predication in their underlying structure (Ross, 1972, Dowty, 1972a, 1972b, Kastovsky, 1973 among others) and Anderson (Anderson, 1971a, 1976) seems to be accounting for roughly the same phenomena, or at least a significant subset of them, with his case Erg. Cruse (Cruse, 1973) also considers the relation between the surface form do and Agentivity. However, little attention is paid to the relation between DO and its surface manifestation as do and other occurrences of this form: similarly Cruse pays little attention to those occurrences of do which are not correlated with his features volitive, effective, initiative and agentive. Ross and Dowty are aware of the problem, but do not suggest any possible solution. Kastovsky does not mention the facts at all. For Cruse the situation is not so

difficult: insofar as he deals with features, then his original hypothesis is at fault and he merely needs to add some other feature(s). The situation is more difficult when it comes to those who posit some deep structure element DO which surfaces under certain circumstances as do, since then we have some occurrences of do which do not realise DO. Typical examples are the do of do-support:

1. Does John know the answer
2. John did not know the answer
3. All you have to do to get in is know the answer

We do not intend that the following discussion will be a final solution to the problem, its role being to suggest possible means of solving it which show that a Localist Case Grammar approach will probably be more successful than other possible approaches. We begin by considering Cruse's approach to Agentivity, which is more concerned with showing the complexities and difficulties around this notion than with a full analysis and presentation of a grammar.

Cruse (Cruse, 1973) is concerned with the notion of Agentivity and the tests which have been proposed for this concept. He makes clear one point which we have not discussed explicitly, but which is implicit in all our suggestions, namely that wilfulness or volition is not a necessary property of Agents. This is the assumption that both Dowty and Ross make with respect to the predicate DO, namely that it entails volition on the part of its subject which is to be interpreted as the Agent. There are two



problems with this absolute association of Agents with volition: firstly, there are cases where we would like to say that we are dealing with an Agent, but volition is denied:

4. John accidentally ruined the cherry cake

5. John did not want to have a fifth slice of cherry cake, but he felt obliged to eat it

and secondly there are cases where Ross (Ross, op. cit.) is obliged to posit a deep structure DO but where no volition is involved. Ross is aware of this problem and cites the following as examples:

6. What the rolling boulders did was crush my petunias to smithereens

7. ?The plank broke, but it wouldn't have done <sup>so</sup> it if you hadn't bounced on it

Cruse also cites as a case of a sentence which we would not normally associate with an Agent the following:

8. Christ died for us

yet which has a purpose clause which is for him a test for volition.

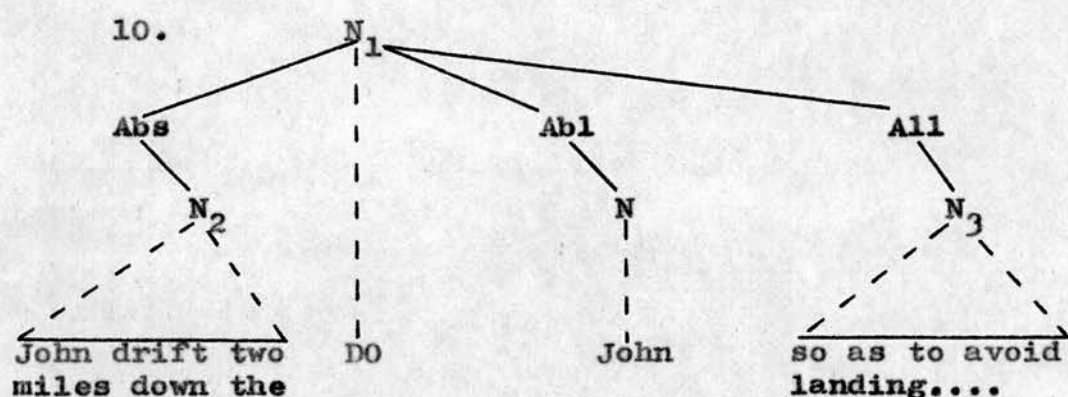
Cruse's interest in the do-test is its ability to select Agents. The test depends on entailments; that is, the sentence must entail another sentence of the form X does/did something. He shows that there are four "distinct semantic features, the presence of which will lead to a positive result with the do-test". These features are: volitive, effective, initiative and agentive. Thus, if any of these features is present in the sentence, we would obtain a paraphrase with do in a cleft sentence, and a corresponding sentence with happen to would be unacceptable.

This approach, which we shall consider more closely below, raises a question of general theoretical interest, namely why should a feature of a sentence (or of the verb or subject NP, Cruse is not explicit about where these features occur) be realised as a verbal element and not as a preposition, or an affix to the verb or a noun, or even in some property of the word order? In fact, all the features can be associated with the occurrence of a DO predication under our own proposals, so that it is no accident that do appears in the surface structure. We shall now consider each of these features in turn.

Cruse's first feature, volitive, is said to be present "when an act of will is stated or implied", and this may often be associated with a purpose expression. We suggested in Chapter 4 that volition and purpose can be handled in the highest DO predication which contains an Abs governing V, an Abl governing the Agent and an All governing the purpose expression. A Loc may also be present to allow for adverbs like carefully, deliberately. The structure of this predication in the case of the example given by Cruse:

9. What John did was drift two miles down the river,  
so as to avoid landing in enemy territory

would be the following, omitting whatever structure is responsible for clefting:



Thus we have DO in the underlying structure which will lexicalise as do due to clefting. Notice that the volitive nature of the sentence is not associated with the presence of DO itself directly, but with the All. Other sentences which Cruse cites which contain process or state expressions could be handled in the same way, i.e. with a higher DO predication. Thus in both

11a. Christ died for us

b. John was ready with his passport

we have a higher predication and in the case of 11a, the All governs us.

The second feature, effective, seems, in general, to be correlated with direct action: examples given by Cruse being;

12. The flying stone broke the window

13. These columns support the weight of the pediment

Insofar as 12 involves direct causation, then it will contain a DO predication in which the window is dependent on All Abs, thus allowing for do to appear under the right conditions, one of these being probably the non-subjunction of the Abs. 13 is more interesting and cannot perhaps be handled in



terms of direct causation or direct action. Cruse's definition of effective is that it occurs in a sentence "which refers to something which exerts a force", which, in fact, may not be too satisfactory. Thus wind refers to something which exerts a force, but there is no need to have the feature effective in the following:

14. The wind was strong last night

A further point is that effective does not seem to be sufficient to account for the occurrence of do. Thus, the following contains a noun denoting a force:

15. The window was broken by a stone

yet in a cleft sentence based on it we find happen not do:

16a. What happened to the window was that it was  
broken by a stone

b. \*What the window did was that it was broken by  
a stone

The crucial thing is that the force-exerting entity must be the subject of the sentence. A more adequate definition of effective would make reference to the fact that a state results from the entity's exerting a force. Thus in 12 there is a resulting state and similarly in the case of 13 the result is that the pediment has the support of the columns. Thus 13 also has the paraphrase:

17. The columns give support to the weight of the  
pediment

Thus 13 could be handled as an accomplishment sentence and could be treated in terms of a structure similar to that for

18. John gave some water to the plants

which we treated in the preceding chapter. Thus 13 will have a DO predication governing Abs, Abl and All, where Abs governs a MOVE predication indicating that support moves from the columns to the weight of the pediment. Just as in the case of 18 and its related sentence with the verb water, so in the case of 13, support may subjoin to the governor of its predication. Thus again we have a DO which can lexicalise as do. Notice also that as in the case of the first feature, the feature proposed by Cruse is not associated with this predicate directly, but rather with the fact that the sentence has an accomplishment reading, i.e. the All of the movement predication is also marked as Loc.

The third feature, initiative, has the meaning "initiation of an action by giving a command" and occurs in the following sentences:

19. John galloped the horse round the field

20. The warder marched the men across the yard

We dealt with such sentences in Chapter 4. The crucial point is that they involve an Abl dependent on DO which is not coreferential with a lower Abl which itself occurs in a DO predication. Thus Cruse's features is really an abbreviation for saying that there are two distinct Agents in the sentence, one of which is directly acted upon by the other. If anyone wishes to refer to such a property to handle the occurrence of do in terms of our grammar, again it is not the presence of DO which is crucial, but the presence of two AbIs governed by distinct DO predicates.

The fourth feature is agentive, which we can associate with that Abl governing N which occurs in a DO predication. But, in fact, such a definition will cover all the uses of do which Cruse deals with, in terms of our grammar, in that they all involve a DO predication containing an Abl. This helps to bring out the inadequacy of Cruse's general approach, in that he needs to posit four separate features where we need simply one predication type. This leads to a further question which must be asked of a feature approach, namely why do only these four features condition do? Cruse must treat as an accidental property of language that fact that do is dependent on these four features, in that there is no apparent reason given why these and not, for example, Mental State, should be a governing factor. Insofar as we can reduce all his features to one basic property, our grammar is more likely to approach explanatory adequacy, in that we at least attempt to show what unifies the occurrences of do instead of labelling them.

Dillon (Dillon, 1974) in a discussion of volitive NPs surveys certain postulates which govern "decent and fair" uses of predicates and constructions involving colition. By way of what is apparently an afterthought, he refers to the possibility of dealing with the surveyed phenomena by a DO predicate, but he refers to this as simply a "notational convenience, that is, it is simply more convenient to handle these properties in terms of a single underlying feature. This seems to be down-grading the



status of DO: given that we have certain syntactic reasons to posit an underlying DO, it is more than a convenience to find that it may also be of use in handling some independent semantic properties.

Thus we can handle, in a straightforward manner, certain factors about the realisation of DO as do without recourse to an arbitrary list of features. But these cases all involve verbs which refer to activities and entail that something was done. However, there are still other verbs which do not fulfil this condition, yet occur with do. The first pattern which we can exclude for the purposes of our discussion is the following:

21. The only thing our samples need do is contain  
 All protein molecules, and we're sunk

This is cited by Ross (Ross, 1972) as a problem for his claim that the verb must be -stative if it occurs in the complement of DO, which itself surfaces as do. Notice that 21, like 22,

22. All you need to do is know the pass-word to get  
 in

is not agentive, which suggests that we may be dealing with a different underlying structure from that dealt with above in reference to Cruse's features. However, as Ross points out, this sentence pattern is idiosyncratic and we shall not, then, consider it here. Instead we shall look at the more general and by no means idiosyncratic or haphazard phenomena covered by do-Support, i.e. that transformation responsible for inserting do into certain strings

(Chomsky, 1957). We shall concern ourselves with the simple question of why do-support and not cherry-support, or any other arbitrary element. This is a question which is not posed by those who posit underlying DO predications in general. But, if, as Ross and Dowty do (Ross, op. cit. Dowty, op. cit.), one is going to make essential reference to the occurrence of do in surface structure to support the presence of underlying DO, what principles allow us to decide which occurrences of do are to be excluded as evidence? Certainly the guiding principle seems to be the classification of the verb as active, but this leads to the neglect of other occurrences of do or their treatment as unrelated phenomena.

The following discussion is not conclusive and does not pretend to be; we shall explore one possible means of accounting for the phenomena of do-Support which links it to the realisation of DO. Chomsky (Chomsky, 1957) posits a transformation which inserts do just in case there is no auxiliary verb which can bear the tense or precede the negative element, that is, it is really simpler to state when do does not occur than when it does. Thus, we use do if the sentence does not have a modal verb, may, might, should, or the is or have of the progressive and perfective aspects. We shall work in what follows with the categories of verbs, process:

23. John died

24. The table broke

mental activity:

25. John likes the book  
 26. John knows the answer  
 27. John believes in being patient

We shall try to show that each has some property shared with activity verbs which leads to the occurrence of do. Evidently, there are going to be many areas which we cannot delve into fully: for example, why with 23 is the cleft sentence with do odd unless we make some special assumptions, since we need the verb happen in an acceptable sentence:

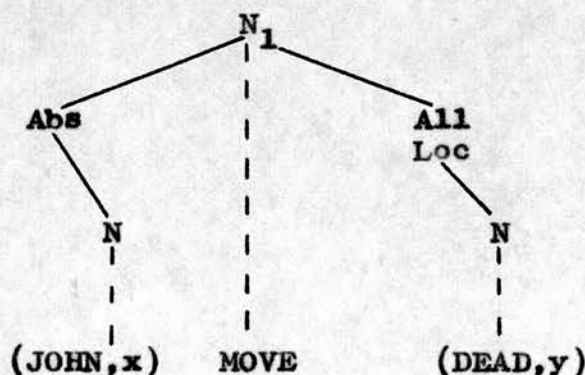
28a. ?What John did was die

b. What happened to John was that he died

Similarly in a full discussion, we would need to have some clear analysis of questions and negations. Certainly, one approach would be in terms of blocking the application of Subjunction, but the factors responsible for this need to be specified. However, some approach to the problem can be made in the absence of such a full framework.

All process verbs have a MOVE predication dependent on the aspect predication: in the case of 23 the structure will be:

29.



What has this in common with DO predications which can act as the conditioning factor for the occurrence of do? One



strong possibility is that, in fact, there is no such thing as a DO predication which is distinct from a MOVE predication. If we compare the occurrence of DO and MOVE in terms of the properties of the predications in which they occur, then we find that they are incomplementary distribution. MOVE occurs if the Abs governs a simple N, e.g. 29 above, while DO occurs if the Abs governs a predication, i.e. the CAUSE predication, or the predication of direct action or of movement, that is, DO and MOVE are dependent on the type of object which moves. Thus, we can do away with separate DO predications and simply have MOVE as the basic element distinct from BE, the nature of the element governed by Abs being the crucial thing, although we shall suggest presently that this may be treated in another way. Thus, in terms of the occurrence of do in negatives and questions, it is the presence of MOVE which may be the crucial factor for action verbs and process verbs.

The verbs of mental activity do not fall into the same pattern, in that there is not necessarily a MOVE predication which can act as the trigger. Anderson (Anderson, 1971a 1976) suggests that the subject of verbs like know is governed by  $\begin{smallmatrix} \text{Loc} \\ \text{Erg} \end{smallmatrix}$ . The presence of Erg marking Loc will account for the by which can occur in the passive:

30. Some of the truth is known by many people  
and also for the animacy restriction on the subject of the verb. Notice that this Erg corresponds to Abl in our grammar, i.e. what appears in a simple case as the Agent. Thus we suggested in Chapter 4 that we could distinguish

between the two readings of

31. The electrode annoyed Mary  
i.e. a mental reaction due to stimulus provided by the electrode as opposed to some positive mental response on Mary's part, by adding Abl to the case governing Mary in the latter reading. Thus if we adopt Anderson's proposals, which will apply equally in our grammar to account for by and animacy restrictions, and combine this with our earlier proposal, then we have an Abl present in sentences containing verbs of mental activity, but notice that we will also have this case present in process and action predications, in one situation as the Source, in the other as the Agent or Force. Thus, we have one feature which unites all the cases of the occurrence of do mentioned so far, namely the presence of the case Abl.

We can use this suggestion to support a recent modification which Anderson has made to his grammar. We mentioned above that for Anderson Erg will characterise a sub-set of those verbs which require do in questions and negations, in that verbs which take Agents will have the Agent governed by Erg and verbs like know will be sub-categorised as Erg. However, this will leave process verbs unaccounted for, since they will not have Erg but will have Abl instead. But, if we remove Erg and treat it as a type of Abl, then we have a unitary treatment of do, namely the sub-categorisation of V as Abl.

Thus, it seems that there is some means of handling the occurrence of do in a unitary manner, whether we adopt

our own or Anderson's Localist Case Grammar. The solution generalises also to verbs like occupy, contain etc. which Anderson treats in terms of the presence of Erg on some other case (Anderson, 1971a, 1976), a treatment which we can translate into the presence of Abl.

## 6.2. A Parting Glance

In our conclusion to Chapter 5, we noted that we need some constraints on what could be an underlying structure, otherwise our proposals would be largely arbitrary and not tell us much about language, i.e. restrict the set of phenomena. There are three areas of the grammar which we must consider, firstly, the cases themselves, secondly, how cases combine in a predication and thirdly how predications combine to form a hierarchy.

### 6.2.1. Cases

We have posited four cases which appear in the hierarchy of cases in the order Abs, Abl, All, Loc. Thus we have one initial, fundamental constraint on underlying structure: no other case can occur. However, certain of these cases may combine to form complex cases and it is of interest to see what restrictions there are on these and how they relate to the cases which Fillmore proposes.

(a) Abl. This case only allows Loc and Abs. The simple Abl defines the Agent and Force cases of Fillmore, the difference being due to the type of predication, i.e. purpose selects only Agents, while other DO predications select Agents or Forces and due also to the presence of a N

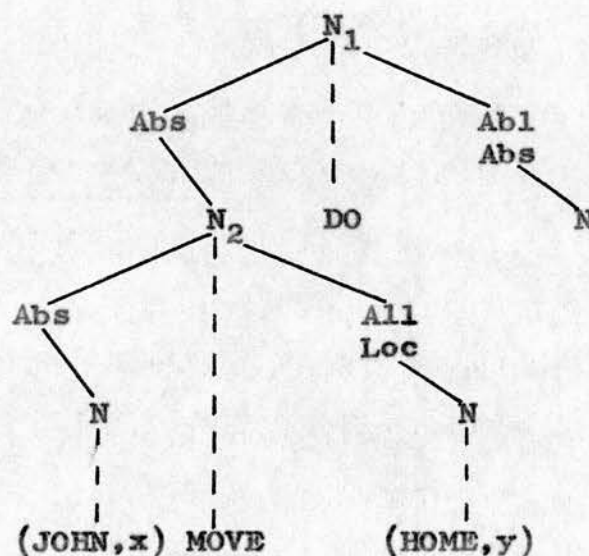


or a predication dependent on the case. Abl defines the Source case. Abl in some cases defines the Agent case and in others it is something of an oddity, in that in Chapter 4 we suggested that in sentences like:

32. John amazed Mary by turning grey over night  
John originates in a MOVE predication governed by Abs and then raises into Abl. Further we needed a constraint to the effect that in this sentence John does not refer to a true Agent. Thus we can say that  $\begin{smallmatrix} \text{Abl} \\ \text{Abs} \end{smallmatrix}$  is the Agent if there is no other occurrence of Abs marking another case in the same predication. Thus in body-movement sentences like:

33. John went home  
 we have the following structure,

34.



and  $\begin{smallmatrix} \text{Abl} \\ \text{Abs} \end{smallmatrix}$  is an Agent since there is no  $\begin{smallmatrix} \text{All} \\ \text{Abs} \end{smallmatrix}$ . However, this still leaves the non-agentive  $\begin{smallmatrix} \text{Abl} \\ \text{Abs} \end{smallmatrix}$  somewhat outside the system. Perhaps we should, in fact, allow that this case is one means of arriving at target structures, if we can allow such notions, since it will allow for the production

of by-clauses.

(b) All. This case allows all the other cases to occur with it. The simple All defines Fillmore's Benefactive case and also what we have called the Adversative, both of which are varieties of the simple notion of "movement towards without necessarily reaching some final point".

All defines the Patient case. All defines the Goal case, Abs Loc i.e. movement resulting in reaching a location and All Abl defines the Experiencer case in sentences with process verbs.

(c) Loc. Again this case allows all the others except All. Thus, a simple Loc corresponds to Fillmore's Locative, and Path in a non-stative predication Loc Abs to Fillmore's Comitative and Instrumental, or at least a subset of Instrumentals and Loc Abl to Experiencer in stative sentences.

(d) Abs. The simple Abs corresponds to Fillmore's Object case. All the other cases may appear with it in a complex case, but such complexes do not appear to define any other cases. In fact, the role of such complex cases seems to be solely to create surface "subjects".

There are some problems with these case complexes mainly concerned with the All-Loc distinction. Notice that there seem to be few constraints on the formation of such complexes except with respect to All. Thus all cases can mark any other case except for All, that is we obtain all possible combinations except those where Abl and Loc are the head case and All is the marking case, Abl All and Loc All

are excluded. It is difficult to know what conditions actually block these cases, and without such conditions the case system may look accidental and arbitrary. If such conditions cannot be formulated in some satisfactory manner, then it is possible that we should look to another conclusion which may be drawn from this situation, namely that there is no distinction between All and Loc at all, that is, we should adopt the position of Anderson (Anderson, 1971a, 1976) and treat All and Loc as variants of the same case, the difference being due to the type of predication in which they occur. Thus a Loc, for Anderson, will be some type of Goal if the predication also contains Abl and elsewhere it will be a Locative.

We cannot discuss this fully here, although some points are worth mentioning. Firstly, removing the distinction will also entail modifying the structure of by-clauses. Thus we have a constraint that no case can appear more than once as the head of a case in the same predication. With no All-Loc distinction, this would require us to adopt a structure for by-clauses similar to that proposed by Anderson (Anderson, op. cit.) with them originating in some higher predication distinct from the action predication. Thus, perhaps, for example, the  $\begin{smallmatrix} \text{Loc} \\ \text{Abl} \end{smallmatrix}$  of the by-clause originates in a predication whose Abs governs the action predication. If we did not have such a structure, then we would have two occurrences of Loc, one marked by Abs and corresponding to our  $\begin{smallmatrix} \text{All} \\ \text{Abs} \end{smallmatrix}$  and the other marked by Abl, corresponding to our  $\begin{smallmatrix} \text{Loc} \\ \text{Abl} \end{smallmatrix}$ . Further, we would not be able



to distinguish between Patients and Comitatives in terms of the case, both would be  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$  and further both would occur in a DO predication. Notice also that without having an All, then the actual occurrence of prepositions becomes much more dependent on other factors in the structure. Both Patients and Comitatives and Instruments also in certain circumstances occur in exactly the same predication types, have the same case structure  $\begin{smallmatrix} \text{Loc} \\ \text{Abs} \end{smallmatrix}$  yet have different prepositional markings. Thus we would need to look elsewhere for the conditioning factor, but in so doing we are moving away from the notion of prepositions as any direct marker of case relations, in fact, moving closer to a Fillmorean position, where case relations are just one of the factors governing case forms. The relation between the two sets of cases proposed in case grammar cast in a Localist framework requires much fuller discussion elsewhere as it has important consequences for the whole form and structure of the grammar. Certainly our proposals seem to be adequate for solving the problems which we have set ourselves, and appear to be fruitful with respect to future research. Even if they prove to be mis-guided, they will have been an alternative cast in the same framework as Anderson's grammar and which forms some basis for comparison and evaluation.

#### 6.2.2. Case Arrays

Let us review the predication types which we have proposed. The list includes, (where P denotes that a predication occurs dependent on that case):

## Purpose predications:

1. MOVE	Abs-P	Abl-N	All-N/P	(Loc-N)
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## "DO" predications:

2. MOVE	Abs-P	Abl (Abs)-N	All Abs-N	(Loc Abl-P)
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3. MOVE	Abs-P	Abl-N	All Abs-N	(Loc Abs-N)
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4. MOVE	Abs-P	Abl-P	All Abs-N	
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5. MOVE	Abs-P	Abl-N	Loc Abs-N	
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6. MOVE	Abs-P	Abl (Abs)-N		
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## MOVE predications

7. MOVE	Abs-N	Abl Loc-N/P	All-N/P	
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8. MOVE	Abs-N	Abl Loc-N/P	All Loc-N/P	
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9. MOVE	Abs-N	Abl Loc-N/P	All Abl-N	
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9 will correspond to the lowest predication in the structure underlying verbs of mental activity, e.g. The electrode annoyed Mary, where electrode is governed by <sup>Abl</sup>Loc, the verb annoy results from subjunction of Abs governing ANNOY and Mary originates as the dependent of <sup>All</sup>Abl. In what follows we shall not consider statives, as we have given these little attention, and there is much to do yet in this area.

We could begin to translate these structures into a grammar of the form proposed in Anderson (Anderson, 1976), with some modifications. Although we talk of these structures and rules in terms of formation rules, they could equally well, and perhaps preferably, be looked on as well-formed conditions on underlying structures. Thus let us assume that any governor of a predication is sub-categorised

as + stative. If it is +stative, then it has one of the local cases dependent on it and an obligatory Abs, and if -stative, then it has at least one and at most three local cases and Abs dependent on it. Thus a -stative sub-categorisation will cover all the structures given above. We distinguished between DO and MOVE predications in terms of whether the Abs governs a predication or not, but we can also use the marking of Abl as Loc as the defining feature. Thus we can separate structures 7-9 as distinct from 1-6 by having a predicate:

35.        N  
          -**stat**  
          Loc

and a rule which says that the Abl introduced by the general rule must be marked as Loc. If we also allow Abl to occur on the above predicate, then we can have another rule which is responsible for attaching the Abl to the All of the predication to produce structure 9. Structures 7 and 8 will be distinguished by the optional marking of All as Loc in the absence of Abl marking the predicate.

Structure 1 will simply be governed by <sup>V</sup>-**stat** that is, a non-stative predicate which can have all three local cases dependent on it, all of which are simple, since there is no case marking on the predicate which can be spelled out onto the other cases. Structures 2-6 will be handled in terms of a predicate which is marked as Abs and in the case of 2 as Abl also. This Abl will be marked on the Loc. The Abs will control the marking All as Abs and the marking of Loc as Abs, if it has not already been marked as Abl. Abl



will also optionally be marked as Abs.

Such structures and rules will handle the cases which we have given, besides some not mentioned. Thus, given that we have an obligatory Abs and at least one and at most three local cases we have these other possibilities:

- (a) V  
-stat

This will account for happen to and agentless passives if there is no Abl, in that All will be marked as Abs. It seems likely that, if there is no All, but Loc is chosen as the only local case, then this case will be marked as Abs and we have the structure which underlies happen with/about:

36. What happened <sup>about</sup> that book you were going to  
write? <sub>with</sub>

Agentless passives would involve the raising of <sup>All</sup><sub>Abs</sub> into the Abs of the aspect predication. In fact, although this can remain only a possibility and we cannot explore it fully here, it is possible that we could do away with marking on the Abs of the aspect predication. Instead we could condition Raising in this case in terms of the type of case which occurs in the aspect predication, that is, if the case is Abl, then a lower Abl raises, if it is All, an All, but any case can raise if it is Loc. This would appear to tie in partially with our observations in the preceding chapter on the parallel between X being in a state or movement and a state or movement being in X, X going into a state and something happening to X, X resulting from someone's actions and someone being from X.

(b) V  
-stat

If we choose only Loc in such a predication, then we have structures which contain by accident or accidentally. A single All will account for sentences such as:

37. This happened to Bill's advantage  
and if Loc also appears in such a structure we obtain:

38. This accidentally happened to Bill's advantage

Finally with respect to the formation rules of predications, there is the question of when a case governs N, when it introduces a predication and when it introduces an event, i.e. V. In fact, the occurrence of V is highly restricted: only <sup>Loc</sup><sub>Abl</sub> and the Abl and All of the CAUSE predication can govern V. This whole question, however, relates to the next problem area in constraining the grammar in terms of what can constitute a well-formed hierarchy of predications.

### 6.2.3. Hierarchy-building

In this last section we shall consider some general properties of the structures proposed in this study. We have suggested that the highest predication in the structure is the tense predications and that this has the aspect predication dependent on its Abs. Restrictions on the predication dependent on the local case of the aspect predication are simple: if that case is Abl or All, then the predication must be -stative, if it is Loc, then any predication can occur. Otherwise there appear to be few restrictions. The general scheme seems to be DO predication governing MOVE predication governing BE predication and in

general such predication are introduced via Abs in DO predication and by the local cases in other predication types. Further there seems to be a restriction that a predication of type X cannot appear embedded in a predication of the same type. Thus a DO predication cannot be dependent on any case in another DO predication unless the latter is a purpose predication, but even here there is a difference since the latter will not be sub-categorised for any case. Similarly MOVE predication require BE predication to be dependent on their local cases, although this does not apply to Abs.

Much work remains to be done in this area of Localist case grammar. The full working out of a grammar and its formalisation is lacking. Although the area of case-arrays, i.e. of what cases may occur in each predication, is comparatively straightforward in this approach and is, in fact, the main concern of case grammarians in general, once we allow the possibility of embedding or of hierarchies of predication, the question of relations and restrictions between such sentences or predication is introduced. It is no excuse but possibly a symptom of the same general difficulties, but this is a problem for everyone, although it may appear in different guises. Given that the effect of movement transformations is carried out in our grammar and in that of Anderson via the hierarchy of predication, we have one general problem concerning such hierarchy, that is we conflate the question of movement transformations with that of semantic adequacy. However, while Transformationalists



are concerned with restricting rules, e.g. Chomsky's conditions (Chomsky, 1973, 1975) and the Laws of Relational Grammar (Postal and Perlmutter, forthcoming, Johnson, 1976) the question of semantic adequacy is never raised.

Still, although there are problems to solve, the study does show how a Localist Case Grammar can handle certain facts about direct and indirect causation. Further we have seen that these notions seem to play an important role in the relations between decomposed and lexical causatives, and that combined with a case approach, rather than the formal approach of transformational grammar, allow us to refute the supposed refutations of Lexical Decomposition. In fact, it is difficult to see how Localist Case Grammar could function in a satisfactory manner without Lexical Decomposition. Insofar as Lexical Decomposition necessarily entails a rule like Subjunction, this area of the study is potentially of most interest in that we have attempted to further the study of this rule and the limitations to be placed on it in terms of the notion of Boss Case.

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B.S.L.	Bulletin de la Société Linguistique de Paris
C.L.S.	Chicago Linguistic Society
E.W.P.L.	Edinburgh Working Papers in Linguistics
F.L.	Foundations of Language
J.Eng. and Germ.Phil.	Journal of English and German Philology
J.L.	Journal of Linguistics
Le Fr. Mod.	Le Français Moderne
P.L.	Papers in Linguistics
R.R.Ling.	Revue Roumaine de Linguistique
S.L.	Studia Linguistica
W.P.L.	Working Papers in Linguistics, Ohio State University
Y.P.L.	York Papers in Linguistics

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